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THE UNIVERSITY OF ALBERTA

EDUCATION, ECONOMIC DEVELOPMENT AND SOCIAL CHANGE IN LATIN AMERICA

by

© JORGE PADUA

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
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EDMONTON, ALBERTA
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The Undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled EDUCATION, ECONOMIC DEVELOPMENT, AND SOCIAL CHANGE IN LATIN AMERICA submitted by Jorge Padua in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Sociology.

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ABSTRACT

A great proportion of the intellectual productions in the field of the sociology of Education, particularly in those areas of Education and Development and Education and Change has been dedicated to the analysis of the conditions for implementing a particular type of education; one that leads to the formation of an individual and a society functional to modernisation.

These intellectual productions utilize a series of assumptions both from the theoretical schemas and from the historical evolution of countries today called "developed". Working in this tradition, specialists have produced a number of diagnoses and recommendations which (it is claimed) if applied in the under-developed countries will lead to the following results.

a. In the short run, there should result-
    i. improved inter-institutional relations;
    ii. increased rationality;
    iii. increased capacity for innovation on the part of people and institutions.
b. In the long run, there should result a type of society and a type of development similar to that achieved by the most advanced, western capitalist countries.

However, it is a main argument of this thesis that the foregoing perspective does not take into account the real conditions or the

historical experience of the (in this case) Latin American societies to which the above model is to be applied.

This thesis analyzes in three sections some of the specific structural-historical characteristics which seem to better explain - and to demystify - the existing relations between formal education systems, economic development and social change in Latin America.

The analysis seeks to demonstrate that the problems of the functioning of the formal education system in Latin America are closely related to the macro-structural factors contituting the "environment" in which operates the formal school system.

In the dynamics of change in education systems, economic factors are "dominant" and political factors are "determinants". (As here used, a "determining" factor is more important or more weighty than a "dominant" factor.)

The historical experience of Latin America clearly indicates that the basic problem of the area is not a climate of opinion held by politicians, decision-makers and intellectuals - a climate of opinion functional to the secularising and modernising of society. On the contrary, the idea of effecting structural transformation according to romanticism and liberalism was present from the beginning of independents state formation in Latin America in the early nineteenth century.

The structure of the world market and its effect upon development and underdevelopment; and the dynamics of class struggle within the nation - these are the factors that chiefly explain the "distortions", the "peculiarities", the "deformities", and in general the lack of success in realising the structural transformations expected to flow from the innovative impact of the education system.

In the light of this perspective, this thesis analyses the relations between education, the structure of employment, urbanization, ethnic relations and class composition - for Latin America as a whole, and for selected countries including especially Argentina, Mexico and Peru.

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CHAPTER I

EDUCATION, ECONOMIC DEVELOPMENT, AND SOCIAL CHANGE IN LATIN AMERICA

A- INTRODUCTION

Ever since the origins of the formation of educational systems as massive organizations, education has been considered to be one of the basic elements for the achievement of structural transformations in the spheres of economics, politics, culture, society and personality.

Emphasizing one or another of these spheres, the expectations for structural changes based on the renovating impulse of the school has caused the school to be thought of as playing a central, decisive and determining role in social change.

The analysis of the conditions on which it is possible to implement an education leading to the formation of an individual and of a society functional to modernization, has been one of the dominant themes of sociological and pedagogical literature in recent times. Since the decade of the forties, reflections about education have passed from an emphasis on idealistic formulations about the role of education in society and the analysis of the teacher-student relationships in the processes of the transmission of knowledge, to more structural foci that relate education to the economy and to politics.(4) It is from this moment that the role of the educational systems in the integral planning of the society places in the centre of the preoccupations the utilization of education as a dynamic and progressive instrument for achieving a modern and industrialized society.

Although in terms of conceptual organization, it was actually since the end of World War II that the preoccupations of planning education according to the needs of the economy became generalized, we should clarify from the beginning that speculations about the role that education plays in the processes of national integration in Latin America date back from the origins of the formation of these countries throughout the 19th century.

Contemporary thought regarding educational planning for development is based in a very dominant way on the speculations of the economics and the sociology of what is now known generically as "developmentalist thought". That means thought which gives the process of economic growth the greatest weight as the conditioning and determining factor in the processes of general social development.

Criticism of the general models of development proposed from the outside and accepted in Latin America without mediation of, or adaptation to, the specific realities of the area has been abundant.(2) The attempts to propose theories and schemas that explain the specifities, problems and alternative solutions for Lating America are promising, although it cannot with justice be affirmed that formalized theories exist. Later, we will go into this matter in more detail.

For now, it is interesting to note that from the point of view of the sociology of education, little has been done to analyse the consequences that the new conceptualization of the problematics of development brings to educational planning. Private and state planning organisations continue to try to implement an educational plan according to the Western developmentalist model, preoccupying themselves mainly with the internal adjustments that must be introduced into the educational system in order to adapt it to the requirements of economic development, as they understand it. Although radical criticism of the educational system has relevance in Latin America, principally in the works of Ivan Illich and Paulo Freire, it is kept separate from the short-run political alternatives, since it questions the educational system as a whole, presenting alternatives that are viable only in a socialist-type socio-political system.(3)

The current models for reforming Latin American educational systems outside of Cuba are then based on a series of principles and suppositions that, although having a high degree of rationality, are of an abstract type, representing the experience of the now-developed Western countries, and ignoring usually the specific characteristics of the societies to which the model is to be applied.

There is a series of problems of a theoretical and epistemological nature that has to do both with the rationality of the educational programme in Latin America, and with the possibility of implementing educational systems that are functional for the programmes of economic development and social change in the area. Throughout this thesis we will try to verify these affirmations in the light of empirical evidence.

The principal hypothesis of this thesis is that:

The role and function that formal educational systems can play in economic development and social change, depend on the characteristics of the societies to which such systems belong.

This is true not only because it is necessary to take into account the "peculiarities" of the societies under consideration, but also (and more importantly) because these same educational systems are the products of specific historical and structural conditions in each society.

The purpose of this thesis is to analyse the reciprocal relations among the economic, the political, and the educational systems in Latin America, within a general theoretical context in which the epistemological and methodological implications of the preceding paragraph are taken into account. The thesis also aims to present some reflections regarding educational planning, the conditions under which this takes place, and the parameters that define the 'rationality' of the plans as well as the possibilities of their concrete application. Not every Latin American country is equally analysed in this thesis. Argentina, Mexico and Peru are examined in a more detailed way.

Although in economic terms, it is possible to confront the problem on the level of the availability of resources and the maximization of their utilization, the conditions for success of any program or plan - in real historical situations - depend on the dynamic of the relations between the social forces, and on the nature of the interplay between the internal and external political forces that define the conditions under which planning takes place.

Planning is one of the elements to be considered in the shaping of national social life. However, plans do not operate in a vacuum, but in social reality. The idea that planning implies rationalization; and that educational planning is the basis for the organization of the educational structures and the harmony between this and the rest of the social necessities - commits the fallacy of ignoring the social forces underlying planning, as well as the political and economic dynamics that determine the conditions under which planning is going to operate.

On affirming that the planning of educational systems must be adapted to the realities of the countries where it will be applied, we are denying the existence of planning in the abstract. At the same time, we are affirming certain general principles of planning to be applied according to specific and inevitably varying national realities.

The efficiency of any plan does not depend only on the "degree of truth" expressed in the premises or assumptions, nor on the "degree of efficiency" of the model on which the plans are based. Rather, it depends also on the type of social structure, power structure, economic structure, and such, into which the planning is inserted.

B- DEVELOPMENT, UNDERDEVELOPMENT, AND PRODUCTION IN THE SOCIAL SCIENCES

For two or more decades, a marked interest has existed on the part of governments, specialized agencies, professional groups, and the public in general - in economic and social development. At the same time, the social sciences have produced an enormous number of studies concerning the formation of industrial societies. These studies supposedly should serve as a basis for programmes of concrete application that would permit the achievement of the desired development.

Many of the formulations have, or claim to have, something of the "truth", and have been the object of much fascination. They provide certain "recipes" that allegedly foster the transition from "traditional" to "modern" societies. Yet it is evident that the growth achieved by Latin America, as a result of the application of the plans and policies derived from the more fashionable theories in North America, is reducing neither the magnitude of the problems associated with poverty in the area, nor the gap between Lating America and the developed Western countries.

The common denominator of the most prevalent Western capitalist theories is perhaps their abstract nature. At the same time they blandly maintain, as a basic supposition, the possibility of the universalization of Western industrial society. In general, in this type of theory there is a "logic" or "mechanics" proposed, on the political, economic, and social plane. This logic and these mechanics are derived from the "historical" experience of the now-developed Western capitalist countries.

The reasoning underlying this type of analysis - reduced to its simplest terms - is the following: we will analyse the conditions in which development took place in the West European countries, and in the United States. Given this experience, we will extrapolate the essential characteristics that make for development. The "secret" for achieving growth consists in reproducing the Western conditions that hopefully permit a "chain reaction" favouring development, modernization, innovating elites, massive increases in N-Achievement, increased savings capacity, and so on. Such countries then appear as "models" for underdeveloped countries to follow.

However, history is not the accumulation of successive moments in time, nor is it a chronology. As Castells correctly points out, "Time does not exist as time, but as a result of a series of social processes that configurate time."(4)

The literature on economic development and social change seems dominated in the social sciences by a-temporal and a-spacial analysis. Also, as a consequence of analytical separations in different specialities, there is the tendency to favour one type of explanation or cause over another, according to the inclinations or particular interests of the author. In this way, at least three types of perspectives appear:

a) Economics, a perspective that emphasizes the economic aspect, in which social change and economic development appear as a direct consequences of certain decisions concerning the utilization of economic resources. This perspective separates economic analysis from the social conditions of development.(5)

b) Sociologism, a perspective that emphasizes the human factor considered sociologically; economic development and social change are conditioned only by certain social forces.(6)

c) *Psychologism*, a perspective that emphasizes attitudinal and motivational variables. From this third perspective, social and economic development appear as a function of the presence or absence of certain abilities of the individual to "achieve" and to manipulate the environment.(7)

All three of these perspectives leave aside the structure of the productive system. As Cardoso states:

> "....social change appears as the result of a mechanism in which determined economic 'factors' work to produce an economic 'result'; or else the 'take-off' to modernization of the economy becomes the result of the interaction of psychosocial motives of a set of men that play the role of the 'eading elite' and assume the risks of adventure of the future, trying to imprint on society the specific framework of the intentions of the particular social group to which they belong."(8)

*Under*development is not the same as *un*development. The notion of underdevelopment becomes futile and abstract each time that we do not make reference to the notion of development. Underdevelopment is the expression of a particular type of *relation* between different types of societies (one developed, the other underdeveloped).

The set of structures that explain development and underdevelopment must be sought in a schema that focuses on the political and economic relationships produced by the international division of labour an power.

From the internal or national point of view, the Western analysis of development generally ignores the fact that the phenomenon is a global one. Yet the analytical separations between the "political", the "economic", the "social" and the "educational" many times confuse this. Florestan Fernandes clearly points out this global nature of development:

> "....from this angle (structural modifications), development is not an 'economic' problem, nor a 'cultural' problem, nore a 'political' problem. Development possesses the character of a macro-sociological problem that affects all the organization of the economy, the society, and the culture, and that refers essentially to the whole 'national destiny', short of long range."(9)

The process of economic development, as well as of the "modernization" of societies depend, then, on political, economical, and social conditions created by man. It is necessary to take into consideration that such conditions are the results of certain concrete forms of domination and of the national and international systems of economic and political relationships. Seeing things from this perspective, we will study the relationships between education, social change, and economic development from a global focus.

C- EDUCATION AND CHANGE

The necessity of extending to increasingly wider sectors of the population the benefits of formal education, as well as the need of strengthen educational planning - these are more or less universally accepted. Such claims are made not only in the name of the rights of the human being to acquire the elemental education that will permit him to live and survive in an increasingly complex society; they are also made because education is conceived as the master key for economic development and as a kind of guarantee against the exploitation of people.

As with the imported (from the Western metropolis) and abstract theories, much of the educational effort in Western-oriented nations assumes that the patterns of development and evolution of the educational systems should follow the models established by Western metropolitan centres (U.S.A. mainly). But our analysis of development and underdevelopment finds that significant national structural differences make the educational systems in Latin America quite different than those of the dominant western capitalist countries.

Although at the beginning of the formation and renovation of the educational systems in Latin America, the principal emphasis and the rationality of the system was placed on the socialization and formation of the citizen for political and social national consolidation, in recent times the emphasis has passed to education for the formation of human resources, under the idea that improvements in the quality of work will have fundamental effects on production, on economic development, and on the living standards of the population.

Emphasis has always been based on the educational system acting as a mediator or inducer of change.

Throughout this thesis, we will try to demonstrate that educational systems, the style of education imparted, the level of internal efficiency of the system, and the possibility of transforming the systems, all depend on the type of social structure, political structure, and the kind of development in which the society runs. But the reverse does not hold.

Educational systems are not, as some schools of thought claim, agents of socialization for the society as a whole, nor equally for all parts of the society. They are not neutral with respect to all groups within that society. Nor, as other viewpoints suggest, is the school system a mere instrument of the dominant class. We shall try in this work to avoid this type of oversimplification. We shall try to analyse the educational system within a society that is not rigidly stratified, but in which certain groups exercise hegemony over certain others.

All this must be seen within the particular historical moment, the objective demands imposed by the socio-economic context, and the internal dynamics of the educational systems.

1. Why Educate?

Formal education, as an institutional phenomenon that affects the total population, is something relatively new in the history of humanity.(10) Reflections about education, about the means of educating, who is to be educated and for developing what, on the contrary, go back to the philosophers and thinkers of antiquity.

The polemic about whether education should be a training of the intellect or a liberation of underlying forces in the individual; about whether we must educate morally and politically or just for the working world; ideas such as the integral education of the individual; distinctions between the formed man and the unformed man; determinations about the role played by experience, liberty, play in learning, the importance of abilities - a whole set of ideas that are often interpreted as the result of the 'revolutions' of modern pedagogy, were actually pointed out by such philosophers and thinkers as the following:

Plato (429 - 347 B.C.):

> "For the free man there should be no element of slavery in learning. Enforced exercise does no harm to the body, but enforced learning will not stay in the mind. So avoid compulsion and let your children's lessons take the form of play."(11)

Plutarch (45 - 50 B.C. - c. 25 A.D.)

> "I do affirme surely in mine opinion, chyldren oughte not to be brought up to honest exercise by beatyinge and strokes, but by exhortation and reasonyng...For punishment is meter for villaynes and slaves than for them that be franke or of gentill bloud...(12)

Petrus Paulus Vergerius de Padua:

> "We must remember that mental endowments differ...The choice of studies will depend to some extent upon the character of individual minds...
> The natural bent should be recognized and followed in education. Let the boy of limited capacity work only at that subject in which he shows he can

> attain some results....The knowledge of Nature...the laws and properties of things in heaven and in earth, the causes, matuations, and effects - this is a most delightful and at the same time most profitable, study for youth."(13)

Vives (1492 - 1540)

> "The process (of learning) is to the unknown through the known and we can only attain the verdict of the mind's judgement by first employing the functions of the senses..."
>
> "In determining the instruction to be given to each person, the disposition is to be regarded; the close consideration of this subject belongs to psychological inquiry."(14)

Pestalozzi (1746 - 1827):

> "A man who has only word wisdom is less susceptible to truth than a savage. This use of mere words produces men who believe they have reached the goal, because their whole life has been spent in talking about it, but who never ran toward it, because no motive impells them to make the effort; hence I come to the conviction that the fundamental error - the blind use of words in matters of instruction - must be extirpated before it is possible to resuscitate life with truth."(15)

Rousseau (1812 - 1867):

> "Give your scholar no verbal lesson, he should be taught by experience alone... Things. Things! I cannot repeat it too often. We lay too much stress upon words; we teachers babble, and our scholars follow our example...I am never weary of repeating; let all the lessons of young people take the form of doing

> rather than talking; let them learn
> nothing from books which they can learn
> from experience."(16)

We could go on with the list and include Aristotle, Seneca, Virgilio, Fenelon, Kant, and so on. But the important thing to point out is that the theoretical bases of modern education have been around since antiquity. It is interesting to note, particularly among the Greeks and Romans, the differentiation of certain qualities of free men and slaves and servants with respect to the methods of education.

All these reflections occupy without a doubt a very important place, and exercise a decisive influence in the elaborations of the fathers of modern education (Montessori, Dewey, the Gessells, Piaget, and others). However, we are interested in pointing out that the implementation of such reflections, the possibility of their concrete application, depend on factors apart from the goodness or degree of truth of the premises.

The ways of educating, who is educated and why, the existence of, and changes in, the educational system - all are the product of social, political, and economic necessities.

The changes in the Greek educational system did not occur as a consequence of the reflections of Plato, Aristotle, or the Sophists, but rather as a consequence of the new social order and of the new forms of interaction which were established in Greece due to the growth of the Empire. The more pragmatic necessities of the Roman Empire modulated the educational system inherited from the Greeks. The new social order and the new conception of man in the Rennaissance caused the rediscovery of Greek and Roman education, and its adaptation to the necessities and conceptions of the new era.

With the Reformation and the imposition of Bible reading, the necessity appeared for the school to be extended to the people, for formal compulsory education, not only as a need of the church, but also of the State. To the advance of Protestantism in the establishment of schools, Catholicism reacted in its own way, particularly with the creation of the order of the Society of Jesus (1534).

Finally, with the French Revolution and the industrial revolution, and their reflections on reason, liberty, equality, fraternity, and the necessity for an industrial labour force, for the first time the provision was discussed for primary schools for everyone, and with the pretension that such schools would be of high quality. Elemental education became primary education for the whole population, regardless of social, religious, ecological or sex origin. Education was made compulsory for the 6- to 14-year-old population.

The primary school, taking on the formation of the future generations, assumes the task now not only of instructing, but of socialising the younger generation. Thus, the objectives of the system, synthesised for the primary school, in the contemporary school become:

- to instruct in motor and manual abilities;
- to form character, particularly concerning morality;
- to impart good habits (combining aspects of character with abilities;

- to form personality ("integral formation" of those being educated);
- to provide a "general education" which would mean the acquisition of the national cultural heritage in its intellectural, moral, scientific and historical aspects;
- to instruct in certain concrete skills which can affectively incorporate the individual into the working world, or prepare him for the middle and upper levels of the educational system.

Concerning this list of objectives in terms of the Latin American educational systems, the comment can be made that they are very ambitious and in general not even partially fulfilled. Before entering into the analysis of why, it is convenient to put forth some reflections about the objectives of the school as an institution.

2. Educational Systems For What?

The institutional activity called "school" was conceived in order to achieve certain ends, not only for its members but also for the whole society. On the level of the individual, we have discussed the implications and the reaches of the aims, and the obstacles that the system faces in realizing these aims. In this section, we will concern ourselves with some of the problems of the system in relation to the larger society.

Although the notions of "freedom of education" and its corollary, "equal opportunities for all" have somewhat of a political and social character, and ultimately are an economic matter - it can be said generally that there is little questioning of such notions.

On the other hand, the relative emphasis that the educational system should put on some aspect of the educational as related to the social sphere is subject to important controversy. There are at least two currents that put a relative emphasis on certain principal objectives of the educational system:

a) Those that emphasize civic criteria, consequently placing the emphasis on education on the political aspects. The basic point according to this view is to educate or socialize the citizen in such a way that he participates in the most effective way in political processes. In its expression as a cultural-humanist thesis, education is conceived as a liverator of the individual. Literacy becomes the condition by which individuals ascend to the complex relations of modern society. Consequently, literacy is transformed into the instrument by which individuals are less exploited. As part of this same ideology, education appears as moral education, and thus adapts the individual to living with other men according to certain conceptions of the arrangement of the social hierarchies.

The so-called "radical" thesis adjusts itself also to civic criteria, when it maintains from another political angle that the fundamental role of education should be that of liberator of the oppressed. Although the Declaration of Fundamental Rights of the United Nations affirms the right to education as a mechanism for the "liberation of the individual", it must be made very clear, and this is part of the radical thesis that we share, that simple literacy, although it can be a necessary condition, is far from being a sufficient condition for liberation, as long as liberty and effective exercise of it, depend less on the individuals and more on their capacity to associate with their peers to defend their rights.

b) Those that emphasize economic criteria. Here the educational system appears dominated in its objectives by an emphasis on the utilitarian, since education justifies itself as an "investment" in abilities and capacities and hence is the most important element for obtaining progress and development. The dominant element is, then the concept of educating to augment the "human resources" or the "human capital" of a nation. It tries to provide qualifications so that the individual enters the labour market in the best conditions. Rationality would be quaranteed to the extent to which the educated man not only does things better, but also is more susceptible to economic innovation.

Although both types (civic and economic) of emphasis appear in the abstract to be objectives of the educational system, it is necessary to point out that in fact there does not exist a complementarization of both, but rather a superimposing.

Thus, the Latin American school is conceived in the best traditions of illuminism and rationalism, but inserted into an economic and political structure whose dynamic is determined in significant form by its dependent character on certain hegomonic and foreign centres of the international capitalist economic system. This causes a type of relation in which the particular structure of production and labour organization determines not only the rates of literacy, but also the rates of schooling (at all levels), the productivity of each level, and even the content of the teaching.

The democratic conception of the school, its ideal of generating equality and correcting inequalities; the idea that development is possible when certain pre-requisities are fulfilled and can be supplemented by means of the school system; and the affirmation that these processes are being fulfilled, although slowly, in Latin America - these are all the result of a series of myths:

1. the myth of the equality of opportunities.
2. the myth of freedom.
3. the myth of progress.
4. the myth of technical progress.

1. The myth of equal opportunities - that the educational systems and the Latin American socieities are open and democratic - must be denounced because in fact not every social position is open to everyone, except when physical, psychological and social development of the individual is determined in a significant way by the system of social stratification.

2. The myth of freedom - the idea that men have certain inalienable rights which are guaranteed once the subject can read and write, and consequently can put himself in "objective" conditions to understand these rights - ignores not only the factors mentioned above that condition the exercise of freedom. It also ignores the fact that

alienation is not the exclusive property of illiterates, but something that goes beyond illiteracy and includes such aspects as class consciousness.

3. The myth of progress - that progress is achieved through the repetition of certain processes that took place in Western Europe and the United States, ignores the effective fact that progress is not an abstract category, and ignores the further fact that underdevelopment is not an absolute but rather a relational property.

4. Finally, the myth of technical progress - that this resolves in the end all the problems - ignores the fact that progress does not depend purely on technical factors, nor on purely economic factors, nor on purely political factors nor on purely psychological factors. Rather, such progress depends on factors that effect overall the organization of the economy, of the society, and of the culture.

3. Power Structure and the Transformation of the Educational System.

The "evaluation" of the educational systems and the consequent "diagnostica" that are generated by such evaluations, especially those referring to the ineffectualness of the system in fulfilling such and such goals, is an activity that is becoming increasingly more common in Latin America. In recent years, an important number of works specialized in the Sociology of Education have merged, either connected to individual interests of researchers or directly tied to offical planning organizations or agencies specializing in research. Even those sectors strictly tied to the educational task, through Ministries of Education or teachers' associations and student organisations, have interested themselves professionally in the theme.

From all this, there has arisen a type of consensus about the necessity of transforming or reforming the educational systems with the aim of making their task more effective. However, to the extent the aims of the educational system are not conceptualised in the same way by different interest groups, the recommendations as to how to effect the transformations, on the basis of what criteria, and what should be achieved, are a more obscure problem. Here, not only differences of opinion or interests are manifested, but also a set of different and frequently contradictory ideologies.

The efforts to democratize the educational systems, then, face important obstacles that have to do not only with the technical, economical, and "know-how" problems, but also with the material conditions of the physical and social environment, the ideologies of different groups, the interests of these groups, and so on. Thus, the generalised idea that it is relatively easy to adapt the educational systems to the necessities of modern societies is simplistic.

Among the characteristics of educational systems that make them one of the most powerful centres for generating conflict among the different interest groups, are the following:

- it is a formal organization of the most formidable size, making it the biggest bureaucratic organization of the state apparatus, with respect to personnel and budget.

- it occupies a key position in the socialization and indoctrination of children and youth;

- it is perceived by the urban masses, and acts effectively for certain groups, as the principal mechanism for social mobility;

- it is interpreted by different interest groups as one of the principal mechanisms for generating economic development, for the preparation of a qualified labour force, and for generating social transformations.

In synthesis, the educational system is seen as an organization which forms a special type of man, a type that is defined abstractly from the social model that the interest groups judge to be the ideal one.

The perception of the educational system and the determination of its role and of the priorities of the aims within it, is mediatized then by the political ideology of the dominant group and by the conflicts and agreements of this with other interest groups.

On this level, and concerning the authorities that can undertake the task of transformation, Dewey's proposal in 1921, referring to education and change, still seems relevant to us:

> "The alternatives that the politicians in power have are to establish educational reform to cope with change, or to establish the reform to induce the change. In the first case, educational reform is established to satisfy the demands generated by the effect of the changes that have occured on the level of the overall society; in the second case, the reform is established so that the school takes an active part in the process of change, directing it."(17)

These two perspectives, as we will say in a later chapter, are expressed on the ideological level as the conservative-liberal-reformist thesis in the first case, and as the radical-leftist-revolutionary thesis in the second case. In the first case, the school would be reacting to the problems presented by the social, political, and economic structure; in the second case, the school would be introducing new elements that would affect the relationships among men.

In abstract terms, it is quite common for both conceptualizations to begin with the premise that planning and centralization carry implicitly a certain character of rationality, and that the application of this type of strategy to specific problems, whatever they are, assures that the reform results in harmony between educational systems and social demands. However, planning neither guarantees harmony and rationality, nor has it in recent decades in Latin America resolved in a satisfactory manner the contradictions that one or the other of these ideological positions adopt, simply because of the theoretical level, planning contains elements of both ideologies.

Firstly, because as we will examine in detail in Chapters III and IV, educational systems are the product of specific structural and historical conditions in each society. Consequently, the limits to, and the possibilities of transforming, the educational systems depend on parameters that are fixed outside the educational system itself, and the reflections that are made about it.

Secondly, if the school is going to play a role and a function in economic development and social change, this role and this function depend again on the type of society of which the educational system is part. And this is because the process of economic development, of social change, and of modernization, depends on political, economical, historical, and social conditions created by men and women. However, although men "make history", the conditions under which history is made are not determined entirely by these men, but largely by the structural conditions under which the decisions are made.

The elimination of poverty and ignorance; the elevation of the living standards of the population; the utilization of education and of its correlates of science and technology; the adoption of democracy as a political order and as a way of life - all these imply not only a series of shared valued, but also structural conditions that do not emerge from the school, but rather from the global social system.

The so-called "traditionalism" of the Latin American educational institutions represents certainly one of the problems to be resolved. Yet it must be clear that a solution does not depend exclusively on the school, but on the global social structure as well. What sense is there - and this is shown by the failure of rural schools - in transplanting urban-type schools (however modern they are) to the rural environment? What sense would there be in modernizing the entire educational system, when all of the structures surrounding it have a traditional nature?

All the aforesaid does not mean that it is necessary to put traditional schools in traditional environments. What we wish to point out is that modernization, and this type of transformation, have little or not possibility of success when understood in this context. That is to say, the idea of utilizing the educational system to democratize society, when the societies are not democratic, results, even in the best of cases, in a school that is an enclave within the overall system. It means that if the socieities are not open societies, the "meritocracy" is nothing more than a myth, an ideology, since the school, seeming to function as a channel of democratization, functions actually as an agent of the status quo, as a perpetuator of a given system, independently of the wills and intentions of teachers, students, the Ministries of Education, planners, and so on.

To be fair, we will commence by clarifying that we are not "putting the blame on the planners". On the contrary, educational planning in its generality abounds with good intentions. As we insisted in the introduction, planning is one of the elements to take into account, but in the end, the decisions concerning the type of transformation and the implementation of it, belong to the sphere in which the political and economic systems intersect, and which is expressed on the decision-making level by the political groups in power. Here it is necessary to elaborate in some detail.

If we start from the supposition or principle that the basic imperative of any group in power is that of staying in power, we have as a corollary of this principle, that the possibility of implementing changes that radically effect the structure of domination or the mechanisms that sustain them, depends on the degree of legitimation of the political system, as well as on the relative force that the group in power can exercise. We derive from this argument the following hypotheses:

Proposition I: Changes on the technical level (improvement of the educational system within the parameters that the overall system establishes) do not depend on substantial changes in the equilibrium of forces in the pressure groups of the overall society, but rather depend on the efforts to achieve improvement, which translates into such questions as greater financial investment, better teaching conditions, increased quality of personnel, better teaching methods, a more substantive curriculum, more connected to the existential reality of the students - in short, a greater quantity and quality of material and non-material conditions within the school.

Proposition II: Educational revolutions - expressed as substantial and significant changes in the concept of education and its philosophy, and the putting into practice of these - depend in turn on revolutions of substantial changes in the overall society, which radically effect the equilibrium of forces within this society as well as the essential characteristics of the political, economic, and social systems; and which in their synthesis, define the relations among men and women within these systems, and are translated into a plan with national destiny.

By means of the mechanisms that are fixed in Proposition I, the educational systems would revolutionize and manifest a certain limited change. As a consequence of the results of Proposition II, the educational systems would mutate, would pass from one conception of man to another, from one conception of society to another, from one form of relations among men to another form, and finally, from one type of school to another.

D- THESIS PLAN

The analysis of the educational problems that we will try to face in the thesis is extremely complex, for many reasons, among which are the following:

a) firstly, because we are dealing with a heterogeneous area that includes 21 countries;

b) secondly, because in order to demystify many of the stereotypes that from within and outside the area are used to demonstrate the need to modernize the Latin American societies, it becomes necessary not only to describe some demographic and ecological characteristics of the area, but also to include elements and analyses of a historical-structural type that give meaning to the casual interpretations;

c) thirdly, because the conceptualization of the problems of development and social change, as well as of the role that education plays in these processes, is not homogeneous and unique, but reflects the different theoretical and ideological positions expressed in what are known as currents or schools of social thought. There is no organized sociological theory in which the concepts we are dealing with are interrelated;

d) fourthly, because the problems of the functioning of the educational system are analysed by level or cycle (primary, secondary, and higher) in addition to an examination of the problems of illiteracy. All this implies having to deal with a series of statistics for which the most reliable material had to be sought.

Therefore, the thesis is organized according to the following plan.

PART I concerns the STRUCTURAL AND HISTORICAL BASES FOR THE STUDY OF EDUCATIONAL SYSTEMS IN LATIN AMERICA. It begins with Chapter II, Some Demographic Characteristics of the Latin American Region, which presents some statistical data with the object of describing the principa; characteristics of the population, urbanization, economic structure, and some sanitary statistics - by country. These characteristics will serve as an objective base for the arguments that will be discussed in different substantive chapters of the thesis that refer to the regional and national differences, and to the influence of the processes of structural change on the educational systems.

Traditionally, Latin America has been considered to be a homogeneous region of traditional societies, predominantly rural and static. This is far from reality. The concept of Latin America includes a series of countries extending throughout South America and Central America and part of North America, and usually the Carribean. The cultural, economic, and social unit that synthesizes the concept "Latin America" includes a diversity of countries with different structural characteristics, with a varied population composition, and with different social, political and economic problems.

The Latin American countries that we deal with in the analysis could be classified within what is called the Third World. Yet they have their own characteristics that separate them from the Asian and African countries, at least with respect to the historical-structural processes that effect development and the dynamic of the educational systems. In addition to the structural problems concerning its demographic and economic structure, Latin America "penetrates" the world of ideas and of Western domination under different circumstances than those experienced by the Asian and African countries.

Chapter III, Historical Bases for the Explanation of the Development of Education in Latin America, examines some of the characteristics of the conquest and colonization. The 300 years of Portuguese and Spanish colonialism imprinted on the area we are studying a cultural heritage, a common language, and a Catholic cosmology, fundamental for the understanding of the political, social, economic and cultural problems not only of that era but also of contemporary times.

The conquest by Spain and Portugal represents an introduction to the Western and Christian world of the 16th century for two "Empires" with ideological, historical, and structural characteristics quite different from those reigning in the Western Eurpoe of those times. The Catholic Church occupied a fundamental place in the colonial system, at the same time having a monopoly on the formal education during that era. The church was the vehicle by which the conquest was rationalized, and the Catholic cosmovision of the universe dominated the cultural panorama. The organization of education followed the caste criteria for indigenes and slaves, schooling for them being limited to the teaching of Spanish and indoctrination in the Christian faith. For the white conquerors, the principal task was the education of the elites. Thus, the principal preoccupation and the centre of education was located in the Higher Institutes and Universities under the charge of religious orders (Jesuits, Franciscans, and Dominicans, especially).

The wars of national independence, at the beginning of the 19th century, represented, from the point of view of the introduction of Latin America to the Western cultural horizon, the clear influence of the ideals of the new social and economic revolution that the world of those times was experiencing. From the cultural perspective, Latin America lives the contradictions of both types of vision of the world, both Western, but polar with respect to the conception of progress, of tradition, of social and political organization. The wars of independence represent the influence of European and North American romantic and liberal thinking. The impact of the North American and French revolutions, as well as of industrialization in England and in Western Europe, are the conditioners and the models that produced the projects for creating the new national units.

Education was to play, in the thinking of the liberators, a fundamental role in the destiny of the new nations. For the forgers of national independence, education had the nature of education for "progress" and for the political development of the nations.

In a situation quite similar to that of Europe - where before the Industrial Revolution education played a fundamental role as an element of political consolidation of nations - in Latin America the educational cosmovision of the progressives and revolutionaries was towards an education for the political. The introduction of Latin America into the world of Modern History (at least from the perspective of the political ideology of the liberators) corresponded to the overthrow of the colonizers and therefore of the medieval world.

The problem of education as an instrument of, and an institution for, the progress of a nation began to be put forth after the resolution of the internal wars, and with the access to power of the groups that brought from Europe and from the United States the ideology of liberalism. The resistance of the conservative groups was strong, and has been prolonged right up to the contemporary era. But the important thing to point out is that the idea of schooling to educate the citizen - a citizen who on participating in the ideology of progress would generate the changes necessary for the secularization of the institutions and the industrialization of the societies - is not a new idea that must be introduced into the political discourse or the government programmes in Latin America, as many of the hypotheses of the "Sociology of Modernization" would have use believe. The Latin American educational problem does not lie in the "traditional mentality" or in the lack of a set of "modernizing" ideas, because these have been present as ideology ever since the origins of these countries.

In Chapter IV, Educational Systems in Contemporary Latin America, the problems that affect the development of educational systems are examined.

Although national organization introduced the school institution as an agency with and for political content, whose role was the integration and socialization of the younger generations into the new political unit, it did not produce, in educational terms, the results expected by the ideology of the system.

The organization of the new Latin American nations corresponds with a period in the economic history of manking in which the economy on a world level entered a period of rapid growth as a direct consequence of capitalist organization and the application of new technologies to the productive process. The structuring of the world market took place around the type of primary products that the countries exported to the metropolis, in a pattern of dependence where primary products were exported and manufactured products were imported.

The processes of industrialization in Latin America were dominated by the patterns marked by the dynamics of the international market, and always with the relational characteristic of peripheral and therefore dependent economies.

The dynamics of economic growth in the different nations of Latin America would decisively influence their patterns of national organization. The changes produced in the occupational structure and in the ecological distribution of the population, the changes in the systems of social stratification and in the demographic characteristics of the population - would act as factors conditioning and determining the structural characteristics and the patterns of evolution of the school enrollment in each one of the countries.

In Chapter V, Evolution of School Enrollment in Latin America, we examine the changes produced in the coverage of the formal educational system over time, analysing the covariations between the educational coverage and the styles of economic development in the developed countries and in the dependent countries of Latin America. The factors determining growth of enrollment in Latin America do not obey the "logic" (or the ideology) of the educational system, nor the policies laid down by the educational authorities. An accelerated growth of the secondary and higher levels while at the same time there remain high rates of illiteracy, is one of the specific characteristics of the evolution of school enrollment in Latin America. The patterns of differential growth in enrollment represent, or are a manifestation of, the different forms of articulation between economic development and social development, within the dominant mode of capitalist production. The relationships between the processes of structural change and the educational systems in developed countries are not the simple result of the autonomous dynamics of the economic systems. But a correspondence exists between a structure that is functional to the plan of capitalist development (monopolic or dependent) and the aspects related to the political system, the action of social groups, and the ideology of these, as well as the dynamic of the economic system.

The expansion of enrollment in the developed countries apparently is functional to the requirements of the production system. Indeed, around 1900 the universalization of primary schooling was completed, while at the same time, enrollment in secondary and higher education grew at a slow rate. There apparently existed a correspondence between the demands of the occupational market and a production structure that required a qualification of the whole work force. As the diversification of the production apparatus and the creation of new occupational roles took place, the demand for the secondary and higher levels of education grew.

In the case of Latin America, the evolution of enrollment has not followed this logical order. Instead, at the same time that high illiteracy rates exist, high rates of growth in secondary and higher education also exist. Apparently, the mechanisms by which the pressures and demands that regulate educational supply are exercised, the "supply and demand" rules of the capitalist system continue operating. These rules depend basically on the functionality of the social structure for the plan of dependent capitalist development, and consequently on the relationships of tension between social classes in an environment where the structural changes develop at quite accelerated rhythms.

Differential access to formal education reflects the dynamics of the relations among the different social groups within each society. Analysing over-all values of growth in enrollment by levels, one could arrive at the false conclusion that the character of greater access to the middle and upper levels of the system would indicate a greater democratization in Latin America than in Europe and the United States. However, the only thing that can be demonstrated is that access to education is simpler than access to property, and that in terms of social inequality the school is not operating as an equalizing agent but on the contrary in Latin America, the gap between the most extreme groups is widening. In this chapter, the relations between differential growth in enrollment and the problems of the legitimization of power by dominant groups are analysed.

PART II of the Thesis evaluates the INTERNAL EFFICIENCY OF THE FORMAL EDUCATIONAL SYSTEM.

Determining the efficiency of an organisational system implies the existence of criteria on which an evaluation can be based or a measurement can be made of the relative success in the achievement of goals which the system proposes to fulfill.

In the case of the educational systems, the task is complex, both because of the size of the organization and because the more general goals are tied to the global society, or to the personality system, or to some of the other subsystems of the society (economic, political, cultural). In this sense, the further we go from the concrete activities of the school, the secondary objectives and the general goals become more diffuse, losing a precise formulation. Thus, the criteria for measuring the achievement of the goal and the controls over the "extraneous factors" that can influence the process, are difficult to control and therefore difficult to evaluate objectively.

We have already mentioned that there is no consensus regarding what should be the principal goals of the educational system; a series of different conceptions of the school exist. This panorama gives us an idea of the complexity both of establishing general goals and of establishing the activities that the school should undertake in order to fulfill these goals. For example, if the most general objective of the system was that of "educating so that the educated man reacts to the world in a more efficient way than a non-educated man", what is meant by "more efficient way"? What is meant by an "educated man"? We must clarify to what sphere of the world we are referring. Furthermore, it is necessary to be in conditions to demark where the effects of education begin and where other factors begin to operate, such as the system of interpersonal relations and the dominant mode of production.

Thus there is a need to establish two kinds of evaluation.

a) One type of evaluation should operate on the level of the internal efficiency of the system and should evaluate this according to its own logic (or ideology). This kind of evaluation is of a more "objective" type. We concentrate not so much on the rationality of the goals as on their effective fulfillment, and from there, we question the possibility of fulfilling the goals or at least of maximizing their fulfillment, based on the conditions of operation that are established for the educational system by the global social system.

b) A second type of evaluation is needed that measures the external efficiency of the system, both on the interinstitutional level and on the level of the quality of the output for applying itself in the most effective way on the level of the global society.

In Chapters VI, VII, VIII, IX, and X, we analyse the problems endemic to the formal school system with respect to its internal functioning, on all its levels: absorption, repeating, chronological delay, and desertion (drop-out). In these chapters, evaluations of efficiency that are external to the system are combined with problems of internal efficiency.

Chapter XI analyses the problem of the output of the university system and its functionality for national development.

Chapter VI, Illiteracy, is the most extensive of the thesis, analysing in more detail both the problems related to the conventional definition of illiteracy and the relations between illiteracy and some structural characteristics of Latin America as a whole. The changes that occurred in the illiteracy rates of different countries, and their relationships with the structure of the labour force, urbanization, sex, and the urban-rural distribution of the population, are analysed in detail, presenting a set of statistics extracted from various sources. Without a doubt, illiteracy is one of the most acute problems (educationally-speaking) of the majority of Latin American countries. This problem that will continue to worsen while conditions of exploitation, particularly in rural areas, continue to reign. Neither the adult literacy programmes not the more and more generalised incorporation of the school-age population are solving the problem.

The functionality of literacy is discussed in this chapter in the light of the criticism of the kinds of programmes that they have tried to implement. In this same chapter, we analyse in detail the characteristics of the distribution of census illiteracy in Argentina, Peru, and Mexico, on the level of the smallest census unit for which we had data available. The correlations between illiteracy, as a dependent variable, and the distribution of the labour force, urbanization, and sex, are maintained in the different countries. In the cases of Mexico and Peru, we analyse the effects of the ethnic composition of the population. The distribution of eco-systems within each one of the countries, especially in the case of Mexico, is analysed in an attempt to go deeper into the explicative factors that condition the existence of zones or eco-systems with high and with low rates of illiteracy.

Chapter VII, Pre-Primary Education, examines briefly the incorporation of pre-school children into the formal educational system. The increase in enrollment on this level, incorporating children from the middle and upper urban social strata, present special problems with respect to the widening of the gap that separates the school achievement of children from different social strata, and which are examined in detail in Chapter XII.

Chapter VIII, Primary Education, analyses the problems of growth in enrollment of this level in light of what we call problems endemic to the formal school system: absorption, chronological delay, repetition, and desertion. The regression of the rural zones is the common denominator of the problem of functioning of the primary cycle, since many of the countries in the region keep this population marginalized from the educational systems. The defficient absorption of the school-age population means that the problem of illiteracy tends to be perpetuated in the region.

It is these countries with the more acute demographic problems, with the higher illiteracy rates, the greater proportions of the economically-active population employed in the primary sector of the economy, the greater concentration of the population in rural areas, that experience the more acute and serious problems of the functioning, thus perpetuating the "vicious circles of poverty".

Chapter IX, Secondary Education, analyses the changes in enrollment at this level. This new sector has shown one of the highest rates of growth in the last 15 years. The principal problem of secondary education is not that of incorporating greater proportions of the appropriate age-group - in fact, more than 80 per cent of students graduating from primary school enter the secondary level. The problem is one of making this sector of teaching something more than a simple pre-requisite for entering university. The same problems that affect the functioning of the primary level affect this level. The cases of Argentina, Venezuela, and Mexico are analysed in detail.

Chapter X, Higher Education, is brief since we could not obtain detailed data on the internal efficiency of the system on this level. The growth rate of university enrollment is the highest of the three traditional cycles in which the formal educational system is divided. The implications of this growth are analysed in Chapter V, Evolution of Enrollment in Latin America, and in Chapter XI which concerns the "Brain-Drain". The conception of the university in Latin America is very similar to that of other areas, even "exporting" in recent times the notion of the university as a "national conscience" that has operated in Latin America since the second decade of this century.

Chapter XI, Education as an Economic Investment, and the Brain-Drain as an Indicator of the Investor Fallacy in the Dependent Countries, goes back to the educational problem from the economic perspective, analysing critically the assumptions of the "Economics of Education" and of the ideology of technical progress. The brain-drain is not a phenomenon isolated from the processes of external and internal dependence, nor the result of the lack of social responsibility of the professionals whose only aim is that of personal enrichment. A separation exists between the needs of the country and the brain-drain where the lack of preparation of national markets to incorporate professionals from "modern" careers, is closely related to the dependence of national economies, either on the importation of technology from the exterior, or on the concentration of activities of the secondary sector of the economy in those sectors that demand innovating research from the transnational businesses and corporations.

There do not exist government programmes that connect the organisms of production of the state to the institutes of higher education. The unrelatedness of the university and the systems of production (and the dependent nature of the latter) has brought as a consequence the 'divorce' between the agents of production and the community of university scientists.

PART III of the thesis concentrates on PSYCHOLOGICAL ASPECTS. On analysing, in earlier chapters, the problems of efficiency of the system, we emphasized the dominant and determinant macrostructural aspects. The high dropout rates and the differential achievement of children in the school were analysed in a global way, making references to the influence of social class on school achievement.

Chapter XII, Psychosociological Aspects of School Achievement, deals with the problem of cultural deprivation and its relation to the systems of social stratification and the differential modes of socialization of the different social classes. Equality of opportunities with regard to the educational system is not determined only by the conditions of supply and demand for education, nor only by the aspects related to the material conditions of existence. There is a close correlation between results on a series of intelligence tests and class extraction. On the basis of primary data collected in Chile, a psychological interpretation of the problem of differential achievement is made, according to social class.

Chapter XIII, Educational Aspirations and Expectations in the Light of the System of Social Stratification, uses data from our research in Chile and analyses the problem of parental perception regarding the permeability of the school system. People do not aspire in the abstract, and in the evaluation of hypothetical situations, there is a fundamental determinant of the level of aspirations and expectations: belonging to a particular social stratum. Apparently the less-favoured strata of the population aspire to less, not because they have a different perception of the functional or symbolic utility of the educational system, but in order to avoid creating a chasm from expectations far removed from reality.

PART IV, CONCLUSIONS, contains the concluding chapter of the thesis, Chapter XIV. Here we summarize the findings of the preceding chapters, insisting especially on the problems of functioning of the educational system in the light of the political circumstances (that act as determinants) and the economic circumstances (that act as dominants).

In itself, education is not the "master key" that will open the doors to development, since the problems of development and underdevelopment do not depend exclusively on the internal structure of the country or region, nor on the capacity of the educational systems to generate competent personnel.

In the same way, the transformation of the educational systems does not depend on the resolution of the internal problems of the system, since the forces that affect with greater intensity the development of the system are found outside of this system.

This does not mean to say that education does not play a role in the processes of development and change. The future of man depends on the men and women of the future, and on the configuration of educational systems with a sense of the future in a pedagogy that integrates the action of men with the historical-social processes relevant to humanity in general, and to society in particular.

FOOTNOTES

1. German Rama ("Educacion, Imagenes of Estilos de Desarrollo"; CEPAL, Division of Social Development, Buenos Aires, 1974, Mimeo) calls this idealist focus "pedagogicist orientation", in contrast to the "economistic" type of foci that began to be prevalent from the end of World War II. Similar conceptualizations can be found in Tomas A. Vasconi, Educacion, Estructura Social y Cambio, Universidad Nacional del Litoral, Parana, Argentina, 1964.

2. Critical analysis of this current economic and social throught was presented in Latin America only after the failure of the Western development models that were imposed in the decades of the fifties, sixties, and seventies. From the centres of different institutions, especially from the local sites of such organisms as the United Nations (particularly ECLA), economists such as Julio Prebisch, Celso Furtado, Teotonio dos Santos, Torcuato Di Tella; and socialogists such as F.H. Cardoso, Florestan Fernandes, Anibal Quijano, Rodolfo Stavenhagen and Jorge Graciarena - ahve presented critical analyses of the models of development imported from the Western metropolis. They have given alternatives more adjusted to local relaties.

3. Current radical criticism of education in Latin American dates from the work of Anibal Ponce, particularly in Educacion y Lucha de Clases, who in the decades of the twenties and thirties, produced a series of Marxist essays about the role of indoctrination at the service of the bourgeosie that education in Argentina had. The works of Ivan Illich - which we will analyse further on - belong within the problematic of the North American educational left, principally in the work of Paul Goodman. In the case of Paulo Freire, his radicalism is of a more European origin, especially in the currents of the existentialist philosophy of Sartre.

4. Manuel Castells, "Apuntes de Logica de la Investigacion Social" ELAS, Santiago de Chile, 1968 (MIMEO).

5. Literature in this area is abundant. Perhaps one of the clearest examples of this economistic perspective is the work of W.W. Rostow, especially in The Stages of Economic Growth: A Non Communist Manifesto, University Press, Cambridge, 1960. The utilisation of natural and artificial economic resources on the part of communities, determines, for Rostow, the "changes of state" that together configurate economic development. The transition between one and another of the states of economic development is the product of the happy combination of economic and extra-economic factors, with neither the social structure nor the system of production integrated in the analysis.

6. The typical example of this sociologizing focus is found in the structural-functionalism of Talcott Parsons and his followers. For example, see the work of G. Kerr, J.T. Dunlop, F.H. Harbison, and G.R. Mayers, Industrialism and Industrial Man: the Problems of Labour and Management in Economic Growth, Harvard University Press, Cambridge, 1960. The authors argue that the pre-requisites for the existence of an industrial society must be found in the human factor. The transition from traditional societies to modern or industrial societies would be assured by a universal model of industrial society, in which the leading elites operate as dynamic agents of the process, through their motives and social aims of a renovating nature. The logic of industrialism thus overcomes the problem of class struggle, to give place to a relation in which administrators and administrated intervene. The criticisms of Fernando Cardoso, particularly in Cuestiones de Sociologia del Desarrollo, Editorial Universitaria, Santiago, Chile, 1968, both of the economistic and sociologistic foci is devastating, pointing especially to the theoretical and epistemological problems.

7. Deriving from some of hypotheses of M. Weber (The Protestant Ethic and the Spirit of Capitalism, Charles Seribner and Sons, New York, 1958) in which are analysed the "capitalistic spirit" and the effect of non-conformist religions on the generation of the entrepreneurial spirit. Authors such as Everett E. Hagen (On the Theory of Social Change: How Economic Growth Begins, Richard Irwin Inc., Homewood, Ill, 1962) and David MacClelland (The Achieving Society, Princeton, 1962) develop a series of works in which they examine the types of personality and motivation (an their origin) that favour the motivation of change for gain, for progress, for competition and for achievement. The achievement motivation, that is, "...the predisposition to do things well, for their own sake, independently of the benefits or of social recognition" (David MacCleland: Teoria General sobre la Adquisicion de Motivaciones, EDEVAL, Valparaiso, Chile, 1971 - in Spanish) is the indispensable ingredient for achieving economic development. It must be noted that in this focus, they take as explicative that which precisely must be explained.

8. Cardoso, F.H. Cuestiones de Sociologia del Desarrollo Editorial Universitaria, Santiago, Chile, 1968 (in Spanish).

9. Frenandex, Florestan, unpub. ms.

10. The Greeks of the fourth century before Christ had already provided some very important ideas about the institutionalization of the educational systems, particularly through Platon (427-348 B.C.) and Isocrates (436-338 B.C.). Edward D. Myers, in La Educacion en la Perspectiva Historica, Brevarios del Fondo de Cultura

Economica, Mexico, 1966, mentions the ideas of Platon for implementing formal systems by which boys and girls equally would attend different levels of the educational system. The stages of the schooling period, with teachers paid by the state, were very similar to the present ones: kindergarden (from 3 to 6 years old), primary (from 7 to 10 years) secondary (from 11 to 18 years), and higher (from 20 to 30 years). Although such a system began to be implemented in Greece, later extending to Rome, the generalization of schooling services for the population and the consequent institutionalization of the formalized system as we understand it, did not occur until much later in history.

11. Lawrence, Elizabeth, The Origins and Growth of Modern Education, Penguin Books, London, 1970, page 28.

12. Lawrence, ibid. page 41.

13. Lawrence, ibid. page 57.

14. Lawrence, ibid. pages 79 and 81.

15. Lawrence, ibid. page 193.

16. Lawrence, ibid. page 160-161.

17. Dewey, John, Democracy and Education, Collier Macmillan, Toronto, 1966.

PART I

STRUCTURAL AND HISTORICAL BASES FOR THE STUDY OF EDUCATIONAL SYSTEMS IN LATIN AMERICA

CHAPTER II

SOME DEMOGRAPHIC CHARACTERISTICS OF THE LATIN AMERICAN REGION

Latin America consists of a series of countries extending the length of the South American and Central American continent, whose principal common denominator is the cultural inheritance from the European conquest, this being expressed fundamentally in the language (Spanish, with the exception of Brazil, where the language is Portuguese, and Haiti, where the langusge is French).[1]

The geographical area covers approximately some twenty million square kilometers, dominated by the Andes Cordillera to the west and by the Sierra Madre in the northwest, with extensive plains in the eastern regions, particulary in Argentina and Brazil.

One of the most noteworthy characteristics of the area, at least for some of the aims of this thesis, is the very high rate of demographic growth - the highest in the world - and as a consequence, the fact that persons younger than fifteen years represent a very significant proportion of the population.

This demographic explosion, of more or less recent origin, represents the reversal of an earlier historical tendency in which - by direct and indirect effects of the conquest - the Latin American world became underpopulated. It is calculated that, at the moment of the

Mexican conquest, for example, there were in Mexico some 16 million indigenous persons, while one century later, the indigenous population was reduced to some two million. Something similar occurred in other countries (Peru, Bolivia, Central America), while in the case of Brazil, Argentina, and (to a lesser degree) Chile, immigration from Europe added large numbers to the populations, at one time managing to alter significantly the ethnic composition of those countries.[2]

In Brazil and in some countries of the Caribbean, the labour shortage, combined with the aggressiveness of the European, and in general the lack of advanced cultural organization (as was the case with the Mayas, Incas, and Aztecs, for example) of the local people, obliged the European to import slave labour, principally from Africa.

In this way, the ethnic composition of the Brazilian population towards the end of the 19th century and the beginning of this century, presented the following characteristics:

TABLE 1: RACIAL COMPOSITION OF THE POPULATION OF BRAZIL IN DIFFERENT YEARS.

Census Data From	Whites (000)	%	Negroes (000)	%	Mixed (000)	%	Asians (000)	%
1872	3,787	38	1,954	20	4,186	42	-	-
1890	6,302	44	2,097	15	5,954	41	-	-
1940	26,172	63	6,035	15	8,744	21	242	1.0
1950	32,028	62	5,693	11	13,787	27	329	1.0

Source: Moreira, Roberto J. Educacao e Desenvolvimento Do Brasil, Centro Latinoamericana de Pesquisas em Ciencias Sociais, Rio de Janeiro, 1960.

It must also be added that Brazil and Argentina were the Latin Merican countries that received an important volume of European immigration during the end of the last century and the beginning of this one.

In fact, six countries received approximately ninety percent of the total immigration between 1921 and 1932.

TABLE 2: IMMIGRATION DATA. Total of immigrants received in six countries circa 1921-1932.

Countries	Total of Immigrants Received (000)
U.S.A.	32,244
Argentina (1856-1932)	6,405
Canada	5,206
Brasil	4,431
Australia	2,913
British West Indies	1,587

Source: G. Germani, Politica y Sociedad en una Epoca de Transicion, Editorial Paidos, Buenos Aires, 1968.

The case of Argentina is important, because, as is well pointed out by G. Germani, the principal characteristic of its foreign immigration was its massiveness, considering that the native base population was very small in absolute terms. Thus, foreign males of 20 and over, until the middle of the present century in some of the principal provinces, were a majority in relation to native Argentinians of the same sex and age category.

TABLE 3: MALE ARGENTINIANS AND FOREIGNERS, 20 AND OVER, IN THE PROVINCES OF BUENOS AIRES, SANTA FE, CORDOBA, MENDOZA, ENTRE RIOS AND LA PAMPA. 1895-1947. (Absolute Numbers).

Years	Population	
	Argentinians	Foreigners
1895	287,000	309,000
1914	557,000	752,000
1947	2,115,000	747,000

Source: G. Germani. *ibid*.

That is, the Argentinian population today is fundamentally of European origin (principally Spanish and Italian). The scarce native population at the time of the colonisation was concentrated chiefly in the south of the Republic and in the north. During the era of national consolidation, the army fought against the Indian in the south, pushing him towards less hospitable zones. Finally, towards the 1880's, the Indians were totally conquered and nearly exterminated, their population diminishing regularly with time.

The situation in Chile was very similar to that in Argentina. Wars against the Indian finally restricted the movement of the Araucanians to the province of Cautin (to the south of Chiloe). The Mapucho Indians offered less resistence to the colonizers as well as to national integration. Consequently, there was no extermination of them, this type of Indian being confined to the south of the Republic, in a situation similar to that of the aborigines in the north of Argentina.

The situation in other countries varied according to these two fundamental patterns (Argentina and Mexico). Thus, the situation around the 1950's with respect to the ethnic compostion of the population was as follows:

Costa Rica (1950):	Whites, 97.7%, Negroes, 1.9% Indians, 0.3%, Asians, 0.1%.
Cuba (1953):	Whites, 72.8%, Mixed, 14.5% Negroes, 12.4%, Asians, 0.3%.
Hondras (1950):	Whites, 1.2%, Mixed, 89.9%, Negroes, 2.1%, Indians, 6.7%.
Guatemala (1950):	Mixed, 46.4%, Indigenous, 56.3%
Bolivia (1950):	Indigenous, 62.9%, non-Ind., 37.1%.
Peru (1940):	Aborigines, 45.8%, non-abor., 54.2%.
Equador (1960):	Indigenous, approx. 15%, Mixed. approx. 17%, Whites, 68%.

Table 4. summarizes some population characteristics of the countries, particulary concerning size and growth.

TABLE 4: BASIC DEMOGRAPHIC DATA FOR DIFFERENT LATIN AMERICAN COUNTRIES AND ANNUAL RATES OF GROWTH FOR DIFFERENT YEARS

COUNTRY	1969 (estim.) (000)	Population growth per 100 pers.	Percent pop'n under 15 1960	Percent pop'n under 15 1965	Percent pop'n under 25 1970	Years required to duplicate population	Annual growth rates (5-24 yrs) 1960-65	Annual growth rates (5-24 yrs) 1965-70	Annual growth rates (5-24 yrs) 1970-80 (est.)
Uruguay	2,852	1.2	28	28	43.6	58	1.34	1.23	1.18
Argentina	24,700	1.5	31	29	46.4	47	1.57	1.51	1.36
Cuba	8,178	2.0	36	34	52.8	35	2.02	1.92	1.84
Bolivia	4,546	2.4	42	43	61.4	30	2.27	2.40	2.57
Chile	9,545	2.5	40	39	58.1	30	2.54	2.53	2.25
Haiti	4,996	2.5	42	43	61.4	28	2.29	2.46	2.72
Guatemala	5,126	2.8	46	46	63.6	25	3.05	2.87	2.93
Brasil	90,655	2.9	43	42	61.3	25	2.98	2.87	2.89
Nicaragua	1,961	2.9	48	48	65.9	23	3.07	2.98	3.38
Peru	13,172	3.1	43	45	63.9	23	3.05	3.12	3.15
Paraguay	2,304	3.2	46	46	66.2	22	3.24	3.45	3.63
Panama	1,417	3.3	43	45	63.2	21	3.24	3.31	3.50
Mexico	48,933	3.4	44	46	65.2	21	3.44	3.51	3.48
El Salvador	3,326	3.4	45	46	65.6	21	3.12	3.37	3.61
Equador	5,983	3.4	45	48	65.5	21	?	?	3.42
Venezuela	10,036	3.5	45	46	63.9	20	3.31	3.37	3.37
Colombia	20,743	3.5	47	47	65.9	20	3.19	3.47	3.53
Domin. Rep.	4,127	3.5	47	47	66.9	20	3.26	3.45	3.61
Honduras	2,512	3.6	48	48	66.9	19	3.31	3.42	3.55
Costa Rica	1,738	3.9	48	48	66.7	19	3.85	3.83	3.95

Source: Department of Social Affairs, General Secretariat, Organization of American States, Basic Population Data in Latin America, Washington, D.C., 1969.

As observed in this table, with the exception of Argentina, Uruguay, and maybe Cuba, the rates of growth for the majority of the countries are very high, independently of the relative level of socioeconomic development (see Tables 9, 10 and 11).

These demographic data are quite important in order to anticipate future educational demand, as well as for the determination of the financial resources assigned to education.

It is precisely those countries with the most acute educational problems that present rates of demographic growth accentuating educational demands in both the short and the long run. Hence it is easy to anticipate that such progress as the elimination of illiteracy and the incorporation and retention of the school-age population, with the aim of guaranteeing the complete elementary cycle, will be a task requiring physical and monetary investments that two-thirds of the Latin American countries, with 45-48 per cent of their population younger than fifteen, will be able to confront only with the greatest difficulty.

A- URBANIZATION

Another important characteristic of the region is the "velocity" of urban growth, as well as the distribution of the total population of the country by areas or regions.

a) Rhythm of Growth: Urbanization in Latin America in the last decades has followed a very accelerated rhythm. Consequently, the region, which until 1950 was predominantly rural, by 1970 was converted into predominantly urban.

In fact, characterizing as urban those places with more than 2,000 inhabitants, the changes in population for Latin America were the following:

TABLE 5: PERCENTAGES OF URBAN AND RURAL POPULATION IN LATIN AMERICA, 1925-1970.

Population(a)	1925	1950	1955	1960	1962	1970 (b)
Rural	70.5	60.7	57.3	53.9	52.6	46.1
Urban	29.5	39.3	42.7	46.1	47.4	53.9

Source: a) For the years 1925 to 1962, Z. Slawinski: "Structural Changes of Employment in the Development of Latin America", in Economic Bulletin for Latin America, Vol. 10, New York, 1965. (3)
(b) The data for 1970 were calculated by the author on the basis of the data from Tables 4, and 6 of this thesis.

Below, we present the necessary qualifications of the foregoing, by countries.

Table 6 indicates that eight nations of the area by 1970 had reached percentages of urbanization of 50 per cent or more; while another eight continued having more than two-thirds of the population living in rural areas.

It is interesting to note that the increment of the urban population has been quite high, especially for countries like Venezuela

TABLE 6: PERCENTAGES OF URBAN POPULATION FOR DIFFERENT LATIN AMERICAN COUNTRIES, FOR THE YEARS 1950-60 AND 1970.

Country	Percentage of Urban Population 1950	1960	1970	Increment from 1950 to 1970(1)	Relative Advance (2)
Uruguay	68	75	80	17.6%	37.5%
Argentina	64	68	73	14.1%	25.0%
Venezuela	49	63	72	46.9%	45.1%
Chile	56	64	70	25.0%	31.8%
Mexico	46	54	62	34.8%	29.6%
Colombia	35	47	58	65.7%	35.4%
Cuba	50	52	53	6.0%	6.0%
Panama	35	42	50	42.9%	23.1%
Peru	31	39	49	51.1%	26.1%
Brazil	31	40	48	54.8%	24.6%
Equador	27	36	46	70.4%	26.0%
Nicaragua	28	34	40	42.9%	16.7%
El Salvador	28	31	38	35.7%	13.9%
Domin. Republic	22	29	37	68.2%	19.2%
Bolivia	26	30	36	38.5%	13.5%
Paraguay	28	30	36	28.6%	11.1%
Costa Rica	29	31	34	17.2%	7.0%
Guatemala	24	27	31	29.2%	9.2%
Honduras	17	21	28	64.7%	13.3%
Haiti	10	12	17	70.0%	7.8%

Source: The increment and advance percentages where calculated by the author on the basis of the following formulas:

(1) $$\% = \frac{(\%\ 1970) - (\%\ 1950) \cdot 100}{(\%\ 1950)}$$

(2) $$\% = \frac{(\%\ 1970) - (\%\ 1950) \cdot 100}{(100 - (\%\ 1950)}$$

(46.9%), Colombia (65.7%), Panama (42.9%), Peru (58.1%), Brazil (54.8%), Equador (70.4%), Nicaragua (42.9%), Dominican Republic (68.2%), Honduras (64.7%), and Haiti (70.0%).

Although the relative increment of the urban population has been large for the entire region, the most urbanized countries in 1950 continued to have the highest percentage of advance in urbanization. This would indicate that, in the period which we are considering, the gap between relative urbanization for the different countries of the region has not tended to decrease, but rather increase.

1) Concentration: Another important characteristic of urbanization in Latin America is the concentration of the population in a few large urban centres, with little development of intermediary cities. This phenomena is part of a combined process in which two factors operate:

1) the high birth rates, mentioned above; and
2) internal migration, from rural zones and medium cities to these large centres, which in turn tend to concentrate the activities in the primary and tertiary sectors which generate employment.

The result of this process can be seen in detail in the table following.

Thus, urbanization in Latin America grows at quite an accelerated rhythm, such that we can affirm that the area on the whole has gone from predominantly rural to predominantly urban. However, when the situation is analysed by countries, it is possible to define at least three blocks:

a) predominantly urban countries: Argentina, Uruguay, Venezuela, and Chile (70 per cent or more of the population living in cities).

b) urbanized countries: Mexico, Colombia, Cuba, Panama, Peru, Equador, Nicaragua, and Brazil (with from 40 per cent to 62 per cent of the population residing in places of more than 2000 inhabitants).

c) predominantly rural countries: El Salvador, the Dominican Republic, Bolivia, Paraguay, Costa Rica, Guatemala, Honduras, and Haiti (with more than 70 per cent of the population in places of less than 2000 inhabitants).

Another important characteristic of urbanization is that urban growth means the concentration of the population in one or two urban centres. Taking as a definition of urban, places of 20,000 or more inhabitants, more than 50 per cent and up to 100 per cent of the urban population resides in places of more than 100,000 inhabitants (Tables 7 and 8).

B- ECONOMIC STRUCTURE

For a general characterization of the area, in this section we will detail only some aspects referring to the employment structure and the Gross National Product for each country. In later chapters we will develop in more detail the aspects referring to socio-economic development

TABLE 7: PERCENTAGE OF URBANIZATION FOR DIFFERENT SIZES OF PLACES AND PERCENTAGE OF URBAN POPULATION FOR CITIES OF 100,000 AND MORE AND IN THE CAPITAL, FOR DIFFERENT LATIN AMERICAN COUNTRIES.

		Percentage of Total Population Residing in places of			Percentage of Urban Population Residing in places of	
Country	Year	20,000 +	100,000 +	Capital	100,000 +	Capital
Costa Rica	1960	24.0	24.0	24.0	100.0	100.0
Paraguay	1950	16.5	16.5	16.5	100.0	100.0
Guatemala	1950	11.2	10.2	10.2	91.0	91.0
Haiti	1950	5.1	4.3	4.3	84.8	84.8
Panama	1960	33.1	25.4	25.4	76.7	76.7
Nicaragua	1963	23.0	15.3	15.3	66.3	66.3
Domin. Repub.	1960	18.7	12.2	12.2	65.1	65.1
Honduras	1961	11.6	7.1	7.1	61.5	61.5
Argentina	1960	57.5	45.4	33.8	79.2	58.8
Uruguay	1963	-	-	45.9	-	-
El Salvador	1961	17.7	10.2	10.2	57.6	57.6
Bolivia	1950	19.6	10.6	10.6	54.1	54.1
Cuba	1953	35.5	22.9	18.3	64.7	51.4
Peru	1961	28.9	18.4	14.5	63.9	50.2
Chile	1960	54.7	33.3	25.9	60.8	47.3
Ecuador	1962	26.9	18.9	11.2	70.2	41.4
Venezuela	1961	47.2	29.9	17.7	63.5	37.6
Mexico	1960	29.6	18.6	8.1	62.9	27.4
Colombia	1951	22.2	14.7	5.5	66.2	24.9
Brazil	1960	28.1	18.8	4.5	66.8	16.2

Source: Z. Recchini de Lattes: "Aspectos Demograficos del Proceso de Urbanizacion en America Latin", in J. Hardoy & Co. Tobar; La Urbanizacion en America Latina; Instituto di Tella Buenos Aires, 1969.

Note: For the calculation of urban population residing in places of different sizes, urban is defined as population of 20,000 or more inhabitants.

TABLE 8: TOTAL AMOUNT OF INHABITANTS AND AMOUNT OF INHABITANTS RESIDING IN THE 4 CITIES OF GREATEST SIZE, FOR DIFFERENT LATIN AMERICAN COUNTRIES

Country	Year	Inhabitants	1st City	2nd City	3rd City	4th City
Argentina	1960	20,010,000	6,739,405 (Buenos Aires)	669,689 (Rosario)	586,015 (Cordoba)	337,060 (La Plata)
Brasil	1960	70,119,000	4,691,654 (Rio de Janeiro)	4,368,603 (Sao Paulo)	1,064,345 (Recife)	745,430 (Porto Alegre)
Chile	1960	7,374,000 (1969)	1,907,378 (Santiago)	384,324 (Valp.-Vina)	294,448 (Concepcion)	89,287 (Antofagasta)
Colombia	1964	17,485,000	1,697,311 (Bogota)	995,726 (Medellin)	637,929 (Cali)	547,072 (Barranquilla)
Cuba	1953	6,819,000 (1960)	1,217,674 (La Habana)	166,384 (Sgo. de Cuba)	110,388 (Camaguey)	77,398 (Sta. Clara)
Mexico	1960	34,923,000	4,589,792 (Mexico City)	816,030 (Guadalajara)	696,606 (Monterrey)	287,952 (Puebla)
Peru	1961	9,907,000	1,641,221 (Lima-Callao)	135,358 (Arequipa)	100,130 (Trujillo)	95,667 (Chiclayo)
Venezuela	1961	7,524,000	1,336,464 (Caracas)	422,287 (Maracaibo)	212,172 (Barquisimeto)	176,665 (Valencia)
Paraguay	1962	1,819,000	305,160 (Asuncion)			
Costa Rica	1963	1,336,000	320,431 (San Jose)			
Guatemala	1964	4,284,000	557,120 (Guatemala City)			
Bolivia	1965	3,696,000 (1960)	360,329 (La Paz)			
Haiti	1969	4,140,000 (1960)	240,000 (Port-au-Prince)			
Nicaragua	1963	1,536,000	234,600 (Managua)			
Domin. Repub.	1960	3,047,000	367,053 (Sto. Domingo)			
El Salvador	1961	2,511,000	255,744 (San Salvador)			
Honduras	1961	1,885,000	133,887 (Tegucigalpa)			
Equador	1962	4,476,000	510,785 (Guayaquil)			
Panama	1960	1,076,000	273,400 (Panama City)			
Uruguay	1963	2,593,000	1,158,632 (Montevideo)			

Source: R. Browning: "Primary Variation in Latin America During the Twentieth Century", International Congress of Americanists, Lima, 1970.

as a sociological question, tying it narrowly to the evolution of the educational system.

In the same way that substantive changes in the percentages of urban population are being produced, the distribution of employment in the last decades has a certain dynamic, which in general can be seen as a lessening of the importance of employment for the primary sector of the economy, and a significant increase for the tertiary sector.

TABLE 9: DISTRIBUTION OF THE ECONOMICALLY-ACTIVE POPULATION FOR LATIN AMERICA, 1925-1962. In Per Cent

Population			1925	1950	1955	1960	1962
Agricultural			61.3	53.1	50.0	47.3	46.1
Non-Agriculatural			38.7	46.9	50.0	52.7	53.9
Secondary	a)	Mining	1.0	1.1	1.1	1.0	
	b)	Manufacturing	13.7	14.4	14.3	13.4	
	c)	Construction	1.6	3.7	4.5	4.9	
	d)	Basic Services	3.2	4.2	4.7	5.2	
Tertiary	e)	Commerce and Finance	6.7	7.9	8.6	9.2	
	f)	Government	2.2	3.3	3.5	3.7	
	g)	Varied Services	7.9	9.9	11.0	12.1	
	h)	Unspecified	2.4	2.4	2.3	2.3	

Source: Slawinski, Z: op.cit.

With respect to the distribution of the labour force for the different countries, again one observes the same characteristics already detailed for urbanization. That is, the primary sector goes on absorbing the larger part of the labour force for some countries, while in others it represents less than a third (Argentina, Uruguay, Chile and Venezuela).

TABLE 10: LABOUR FORCE: PERCENTAGE OF ECONOMICALLY-ACTIVE POPULATION EMPLOYED IN THE DIFFERENT SECTORS OF THE ECONOMY. CENSUS DATA

Country	Year	Primary(1)	Secondary(2)	Tertiary(3)	Non-Primary+
Argentina	1960	19.8	35.9	44.3	80.2
Uruguay	1963	18.1	29.4	52.5	81.9
Costa Rica	1963	49.9	18.9	31.2	50.1
Chile	1971	23.2	27.2	49.1	76.8
Panama (4)	1970	42.8	16.2	41.0	57.2
Cuba (6)	1953	41.7	10.9	37.4	58.3
Paraguay	1962	55.9	19.1	25.0	44.1
Colombia	1964	49.0	19.6	31.4	51.0
Equador	1962	59.1	18.2	22.7	40.9
Venezuela	1961	34.2	22.3	43.5	65.8
Mexico	1970	41.8	24.4	33.8	58.2
Domin. Repub.	1970	57.7	13.2	29.1	42.3
Brazil (5)	1970	45.5	18.4	36.1	54.5
Peru	1967	48.6	21.1	30.3	51.4
Nicaragua	1971	47.0	17.1	35.9	53.0
El Salvador	1971	57.7	13.2	29.1	42.3
Honduras	1961	70.0	10.7	19.3	30.0
Bolivia (6)	1950	64.7	21.1	14.2	35.3
Guatemala	1964	65.9	14.3	19.8	34.1
Haiti (6)	1950	85.5	5.7	8.8	14.5

Source: International Labour Office, Year Book of Labour Statistics, Geneva, 1973.
(The author undertook the percentual calculations on the basis of gross data from the ILO; for these calculations, neither badly-placed activities nor persons looking for work for the first time were computed.)

(1) Primary includes: Agriculture, Forestry, Hunting, Fishing.

(2) Secondary includes: Extractive industries, Manufacturing industries, Construction and Electricity, Gas, Water, and Sanitary Services.

(3) Tertiary includes: Commerce, Transport and Communication Services.

(4) Persons working in the Canal Zones are not included.

(5) Undefined activities were calculated as 2 per cent because this category was included with Banks, Insurance and Real Estate.

(6) These data were extracted from the Year Book of Labour Statistics, 1967.

The Gross National Product tends to reflect in turn the structure of the economy. We again point out that the value of the GNP per person for the area is not a very good indicator for characterizing the units where the dispersion is quite high.

C- SANITARY STATISTICS.

For our last characterization of the area, we present some sanitary statistics that reaffirm the heterogeneity of the area, with respect to what these statistics can express as indicators of the standard of living of the population.

CONCLUSIONS

As the data appearing in the various tables of this chapter confirms, Latin America is not a homegenous area, predominantly rural and static. The description of the demographic and occupational

TABLE 11: GROSS NATIONAL PRODUCT IN 1971 (in 1970 dollars) FOR DIFFERENT LATIN AMERICAN COUNTRIES.

Country	Total GNP (000)	GNP per Person
Argentina	25,332,900	1074.9
Venezuela	10,997,000	1037.1
Chile	8,441,500	939.0
Uruguay	2,396,900	820.6
Panama	1,135,900	779.1
Mexico	34,727,000	683.2
Costa Rica	990,000	553.4
Peru	6,338,100	477.6
Nicaragua	898,300	467.9
Brazil	41,264,200	432.4
Domin. Rep.	1,617,900	385.4
Guatemala	2,013,800	376.6
Colombia	7,886,300	361.9
El Salvador	1,075,100	303.6
Honduras	742,600	278.1
Equador	1,715,500	272.4
Paraguay	621,400	273.1
Bolivia	1,055,600	208.5
Haiti	480,100	114.4
Cuba	-	-
TOTAL:	152,037,800	564.4

Source: InterAmerican Development Bank: 1972 Annual Report of Economic and Social Progress in Latin America, in *El Mercado de Valores*, Year XXXIII, No. 52, Dec. 24, 1973.

TABLE 12: SOME SANITARY STATISTICS FOR DIFFERENT LATIN AMERICA COUNTRIES. (1962).

Country	Life Expectancy	Doctors per 10000	Hospital beds per 10000	Nurses per 10000	Calory intake	Protein intake	Fats intake
Argentina	68	15	61	10	2820	82	109
Uruguay	71	11	64	2	2970	94	124
Costa Rica	67	5	45	5	2460	54	50
Chile	62	6	43	2	2410	77	52
Panama	65	4	43	7	2310	58	58
Cuba	-	-	-	-	-	-	-
Paraguay	60	6	22	?	2560	64	51
Colombia	62	4	27	?	2170	41	43
Equador	56	?	23	?	1890	48	33
Venezuela	?	8	36	4	2310	59	60
Mexico	58	6	16	?	2610	72	71
Domin. Rep.	51	6	27	0.4	2040	50	46
Brazil	56	4	32	1	2780	66	59
Peru	52	?	22	?	2230	58	35
Nicaragua	38	4	19	?	2329	67	60
El Salvador	50	2	23	2	2030	57	42
Honduras	44	?	20	?	2080	54	32
Bolivia	41	2	22	1	1810	47	28
Guatemala	49	2	26	1	2160	58	35
Haiti	44	?	?	?	?	?	?

Source: OAS: Department of Social Affairs, Basic Population Data in Latin America, Washington, D.C., 1969.

characteristics of the area allows us to appreciate substantial differences among the countries, differences that contribute to the explanation of the variations in forwardness or backwardness observed in the educational systems.

The most notable structural characteristics that we have examined in this chapter are the following:

a) Demographic explosion: With the sole exception of Argentina and Uruguay, the Latin American countries present rates of demographic growth higher than 2 per cent; eleven of the countries have rates higher than 3 per cent in annual growth. This population explosion represents possibly the second of the stages that occur in the so-called "demographic transition". In the first of the three stages characterizing demographic transition, both the mortality rates and the birth rates are high, resulting in an equilibrium in population growth. In the second stage, the mortality rates are low while the birth rates remain high, resulting in a substantial increase in population. In the third stage, both the birth rates and mortality rates are low, arriving at an equilibrium in population growth.

b) Ethnic Composition: This is another of the variables that differentiate the population composition of the countries. There exist countries where the majority of the population is classified as white (Argentina, Uruguay, Costa Rica, Chile) and countries with a high degree of racial heterogeneity in the composition of the population, mainly made up of White, Negroes, and Indigenes. The ethnic composition of the population is determined by the influence of migratory currents, coming mainly from Europe between 1850 and 1950, by the influence of slave traffic during the colonial era, and by the influence of the original population. The areas having the greatest concentration of indigenous population corresponds to the areas dominated by pre-Colombian cultures and civilizations (especially Incas, Mayas, and Aztecs).

The relationship between the ethnic composition of the population and illiteracy rates is close, but not direct. A number of variables intervene, economic factors appearing as determinants and political factors as dominants.

c) Urbanization: The increase in the rates of urbanization, which have accelerated during the last 20 or 30 years, is one of the most notable characteristics of the area. We have classified three types of countries according to the urban-rural population in the decase of the sixties:

i) Predominately urban countries: Argentina, Uruguay, Venezuela and Chile;

ii) Urbanized countries: Mexico, Colombia, Cuba, Panama, Peru, Equador, Nicaragua, Brazil;

iii) Predominantly rural countries: Salvador, the Dominican Republic, Bolivia, Paraguay, Costa Rica, Guatemala, Honduras and Haiti.

The general tendency is towards an increase in urbanization, to such a point that the classification could be obsolete in a short time. However, this classification is useful for analysing the present relationships between urbanization rates and development of the educational systems.

Urbanization appears to be one of the structural characteristics of the area and of the countries that is most highly correlated with the various schooling rates as well as with the efficiency of the educational system. Because of its general characteristics, urbanization can be acting as a mechanism of compensation before the high rate of demographic growth, especially in that referring to the coverage of the educational system. The high rates of demographic growth, on altering the population pyramid, represent an important challenge with respect to the quantity of resources assigned to education. The increase in urbanization makes the supply of educational services easier and more implementable.

From another perspective, the distinction between urban and rural areas and the change in the relative weight of one or the other in the total composition of the population, represents special connotations before the aspects concerning the composition of social classes, and the systems of internal domination.

With greater urbanization, the educational demand tends also to present special characteristics, since in addition to an increase in the demand for primary education, there is also an increase, with greater intensity, as will be seen, in the demand for secondary and higher education.

d) Composition of the labour force: Just as important as the transformations in the ecological arrangements of the population are the changes produced in the composition of the labour force. Again, the heterogeneity of the area is reflected in the differential composition of the labour force in the various countries. The global characteristic is a decrease in employment in the primary sector of the economy, and an important increase in the tertiary sector. Important chapters of this thesis are dedicated to the description and analysis of the changes in the economic structure of the area, and to the effect of these on the enrollment structure. In this section we only wish, on the one hand, to note that for the area as a whole, the primary sector stopped being predominant in the sixties. On the other hand, we wish to underline the differences among the various countries of the area, where some countries employ the major part of the economically-active population in the primary sector, and other countries are industrialized in varying degrees.

e) Finally, we presented some sanitary statistics as important indicators of the living standards of the region and of the countries, indicators that further reaffirm the heterogeneity of the region.

FOOTNOTES

1. In recent years, the official statistics of the United Nations and of the Organization of American States include as Latin American countries those which until recently were part of the British Empries: Barbados, Guyana, Jamica and Trinidad and Tobago. However, for the aims of this thesis, such countries will not be considered as part of Latin America.

2. The demographic hecatomb - as Celso Furtado calls it (see La Economia Latinoamericana desde la Conquista Iberica hasta la Revolutcion Cubana, Editorial Universitaria, Santiago, Chile, 1969) - was caused not only by the physical elmination produced by the wars against the Indians, but also by the effect of the economic reorganization. This meant the change of the agricultural systems maintained by the natives before the conquest, to the implantation of a mining economy by the Spanish, and the subjection of male aborigines to forced labour. Also contributing strongly to the high mortality rates was the hunger resulting from this structural change, and the epidemics resulting from new illnesses transported by the Europeans into Latin America.

3. Slawinski, in his article, develops a hypothesis about urban evolution, in which he estimates that the percentage of urban population for 1970 would reach 49.9 per cent. However, our data appear to be more plausible since the estimations from which they were made were census data for each one of the 20 countries under consideration.

CHAPTER III

HISTORICAL BASES FOR THE EXPLANATION OF THE DEVELOPMENT OF EDUCATION IN LATIN AMERICA

The principal thesis of this dissertation is that the role and function which the formal educational systems can play in economic development and in social change depend on the characteristics of the societies to which such systems belong; not only because it is necessary to take into account the "peculiarities" of the socieities under consideration, but also, and more important, because the educational systems themselves are the product of specific historical and structural conditions.

In this chapter we will consider some historical circumstances concerning colonization and idependence, making special reference to the power system and to the ideology of the dominant groups, particularly with respect to their plans for the future, and to the importance that education as a formal system had in these plans.

The sections making up this chapter are:

A. Some Characteristics of Spain and Portugal at the Time of the Conquest and Colonization of America.

B. Education During the Colonial Era.

C. Education During Independence and National Organization.

The Latin American cultural heritage has as a common denominator, language and the catholic cosmovision of the universe, both products of more than 300 years of Spanish and Portuguese domination of the area.

This cultural inheritance is reflected, principally during the wars of idependence, in a conservative ideology and in a resistance to the incorporation of all the new value systems that were generated in Europe and the United States as a consequence of the French, North American, and Industrial Revolutions., The resistance to modernization was part of a constant that came from the isolation of Spain and Portugal from modern Europe, and which was transferred to their colonies. Once independence was achieved, many years had to pass before national integration could be achieve. Objective interests of groups, opposing ideologies, and "caudillism" dominated the political panorama of the new nations during nearly all of the 19th century. In general, the struggles in ideological terms were polarized: the conservative pole, which wished to maintain the traditions strongly associated with the catholic cosmovision of the universe, versus the romantic and liveral groups, which tried to incorporate the new nations into the general movement of Industrial Europe. Simplifying the disjunctive of the new nations appeared, then, in terms of continuing dependence of the Portuguese and Spanish cultural traditions, or association with the changes and social and political philosophies of modern Europe. In spite of the final political destiny of total political amancipation from Spain and Portugal, cultural dependence continued to exercise pressure, particularly in its association with the oligarchic groups and with the influence of the Catholic Church.

The advance of the educational systems was firmly tied to two factors: a) the political importance that the education of the citizen had for the future plans of the groups in power; and b) the role that the state began to play in the management and control of the educational system. This latter point explains the difference between the nominal level of government decrees and laws, and the operational level of the educational system. The laws of lay education in some Latin American countries, and the separation of the educational apparatus from the hands of the church, are a determining factor in the effective schooling of the masses.

During the second third of the 19th century, Domingo Faustino Sarmiento, in Argentina, Chile, and Mexico, is the one who best summarizes the split of the new school, of the secular and modern society. It was he who, after his travels to the United States, brought not only the new ideas that were gestating in education, but also all the new sociology of Tocqueville and the political thinking of Jefferson and Franklin, which revitalized all the Rousseauian and Saint-Simonian thinking dominant in the period of independence.(1)

Jose Pedro Varela in Uruguay, Sarmiento and the Venezuelan Andres Bello in Chile, and Simon Rodriguez in Bolivia, amongst others, are the ones that introduced into the political language of the era the role that modern education plays in the political, social, and economic processes of dynamic societies.

It is clear then that the idea of modernization of societies as well as the educational system, is not strange to Latin American thinkers, but rather goes back to the origins of the constitutions of these countries.

In this chapter, we will point out some of the political and structural conditions existing during the colonial era and the first years of national consolidation. In the next chapter, we will delineate aspects related to the state of education in contemporary Latin America, pointing out in turn the problems tied to the so-called traditionalism of the educational institutions, and to the operation of the system within the actual sociocultural frameworks.

* * * *

A- SOME CHARACTERISTICS OF SPAIN AND PORTUGAL AT THE TIME OF THE CONQUEST AND COLONIZATION OF AMERICA.

The Iberian Peninsula was invaded by various peoples: Phoenicians, Cartagenians, Greeks, Romans, Visigoths, and Arabs. The expulsion of the latter was a process that lasted, in the case of Spain, from the beginnings of the 8th century to the end of the 15th century, resulting in the successive consolidation of various Catholic states dominated by noble families, relatively independent from each other. The expulsion of the Musselmen from Portugal was achieved some two hundred years before it happened in Spain.

Thus, at the moment of the discovery of America, the political organization of Portugal was more advanced than that of Spain. However, although the political borders of both countries were therefore delimited, the degree to internal political organization, of national consolidation, was weak, particularly in the case of Spain.

The traditional history texts - especially school texts - present Spain and Portugal as great powers in their era. However, the unification of Spain as a consequence of the integration of the kingdoms of Castilla and Aragon in 1492, rather than bringing about the formation of a modern state, resulted in the simple juxtaposition of two kingdoms, which, as Stein and Stein maintain:

> "...coexisted as separate entities with separate laws, coinage, and trading patterns. In turn, each separate kingdom aggregated politically and economically disparate parts. While this pattern of political growth was common in late medieval Europe, its persistence in the early modern age leaves Spain in the rear guard of Western European political development."(2)

These factors, in conjunction with the dominant Catholic ideology, contributed to the isolation of the Iberian Peninsula from the transformations that were taking place in the Europe of the 16th, 17th, and 18th centuries. At the same time, a particular type of conquest and colonialization of the new territories emerged, as well as a system of political and commercial interchanges that caused a crisis at the beginning of the 19th century.

The early organization of the Portuguese, along with their leadership in the techniques of navigation and ship construction, led, in the beginning of the 15th century, to the Portuguese sailors dominating (along with the Italians) the commercial routes towards the East, as well as the exploration of the African coasts.

The taking of Constantinople by the Turks in 1453 represented a serious problem for European commerce, since it closed the maritime routes to the east. This brought as a consequence an intensification of the search for alternative routes. The previous explorations of the Portguese and their advanced techniques in navigation, allowed them to establish alternate routes to the Orient, Circumnavigating Africa. Meanwhile, the Italian sailors who had failed in this, emigrated to various countries. That is how Colombus arrived in Spain offering his services to Queen Elizabeth the Catholic, and the story of the ways in which Columbus obtained his funds reflect the state of Spain in that era.(3)

1. Brief Chronology of the Conquest and Colonization of America.

The discovery of America by Christopher Columbus took place in October, 1492, with his arrival in what we now know as the Bahamas. As soon as the news was known, Portugal produced claims to the new routes,(4) which were resolved in the beginning by the Papal Bulls of Demarcation that divided the territory in two sections by a line which passed within 100 leagues of the Azores Islands, the east going to Portuguese control and the west to the control of Spain.(5) Thus certain areas were defined which, with the passing of the years, would result in a series of Spanish Viceroyships and Captainships, and in a Portuguese Dominion.

For his second trip (1493 - 1496), Columbus established in the Hispanic Islands, the first settlement on America, bringing with him soliders, priests, seeds, animals, and a form of settlement organization which would be reproduced all along America. Although the first aims of

Columbus were to colonize the new territory, the political economic organization of the Metropolis (Spain) and the discovery of precious metals, established a system in which it was more appropriate to talk to conquest than of colonization, at least for the first decades.

It must be taken into account that the tasks of exploration and of conquest were not undertaken by troops organized for the service of the Empire, but rather by private individuals associated with the crown - adventurers in search of fast and easy wealth. Thus the conquests were based on terror, extermination and looting in the first place, and a posterior on the exploitation of precious minerals, sugar, and other spices.(6)

The exploration of the new territories was finalized in the first two decades of the 16th century with the recognition that a "new world" was actually being dealt with. From that point on then, the conquest commenced. It was undertaken with amazing speed for those times. Santiago de Cuba was founded in 1514; Mexico City in 1521, Guatemala in 1524, Quito in 1534, Lima in 1535, Asuncion, Paraguay, in 1536 (the same as Buenos Aires, which was rapidly abandoned and refounded in 1580), Bogota in 1538, Santiago de Chile in 1541.

The conquest was undertaken, as we mentioned above, by private individuals, at their own cost, and with the permission of the Crown, which was associated in the profits. Of these individuals, there were four that operated with greater efficiency: Hernando Cortes, Fransisco Quezada, Francisco Pizarro, and Pedro de Valdivia. Cortes conquered

Mexico; Pizarro, Peru; Valdivia, Chile; and Quezeda, Colombia.

The conquest was centralized in regions occupied by the Aztec, Mayan and Incan civilizations, which had not only advanced methods for the exploitation and founding of precious metals, but also a stable and numerous population. The Incan and Aztecan empires had a population estimated at 19,000,000 and 16,000,000, respectively.

Cortes and Pizarro perfectly synthesized the method used by the conquerors, as well as their later effects on the conquered peoples. The fact that the Aztec as well as the Inca Empires had a quite advanced social organization, with a division of labour which resulted in economies with agricultural surplus, accelerated rather than retarded the conquest. Actually, a series of fortuitious occurences (such as the mythology of the Aztecs with respect to the arrival of Gods from the Atlantic, the fear of horses) together with the local problems of the Aztecs and the Incas in relation to their internal fights, and fights with other tribes; and the powerfulness of fire arms - allowed a handful of men to conquer empires of the size of the Aztecs and Incas.(7) Both conquerors (Cortes and Pizarro) used exactly the same technique: kidnapping of the emperor, ransom demands of gold, silver, and jewels; both used terror, pillage and slavery. And both left in their path a wake of death that would be prolonged throught the Spanish occupation.(8)

The conquest itself was in fact modulated as much by the regional characteristics of America as by the political-economic characteristics of the Metropolis. The presence of civilized aboriginal groups meant at first that riches such as gold and silver had only to be collected. In second place, the exploitation of the mines was a task that was facilitated by the abundance of forced man-power.

The exploitation of mining meant the abandonment of the agricultural activities by which the Indians maintained themselves. When mining entered into a period of decadence (particularly that of gold) in the beginnings of the 16th century, a return to agriculture was produced, but now on a small, subsistence scale. Later, with the discovery of new techniques of founding (of mercury), silver returned to a preponderant place.

The social organization corresponded to a quasi-feudal system, in which the indigenous groups were used as slaves. The system of ecomiendas of the Spanish, and that of Brazilian fiefs, integrated the feudal system of exploitation of the land with the slavery of the Indian.(9) The "encomendero" as well as the Brazilian captains, were in charge of the indigenous population and had the right to do justice with their own hands, to charge fees for the use of the land, etc.(10)

The system was a failure, particularly in Brazil, where the lack of labour and the resistance of the Indian was very strong. Furthermore, these original captains had neither sufficient capital nor sufficient soldiers to confront the attack of the Indians.(11) Later on, the system was modified, a Governor-General being named who not only introduced troops, priests, and so on, but also intensified the slave traffic from Africa during the 16th, 17th and 18th centuries and up to the middle of the 19th century, and who was especially tied to the sugar industry.

(See Ch. I, Some Characteristics of the Latin American Area).

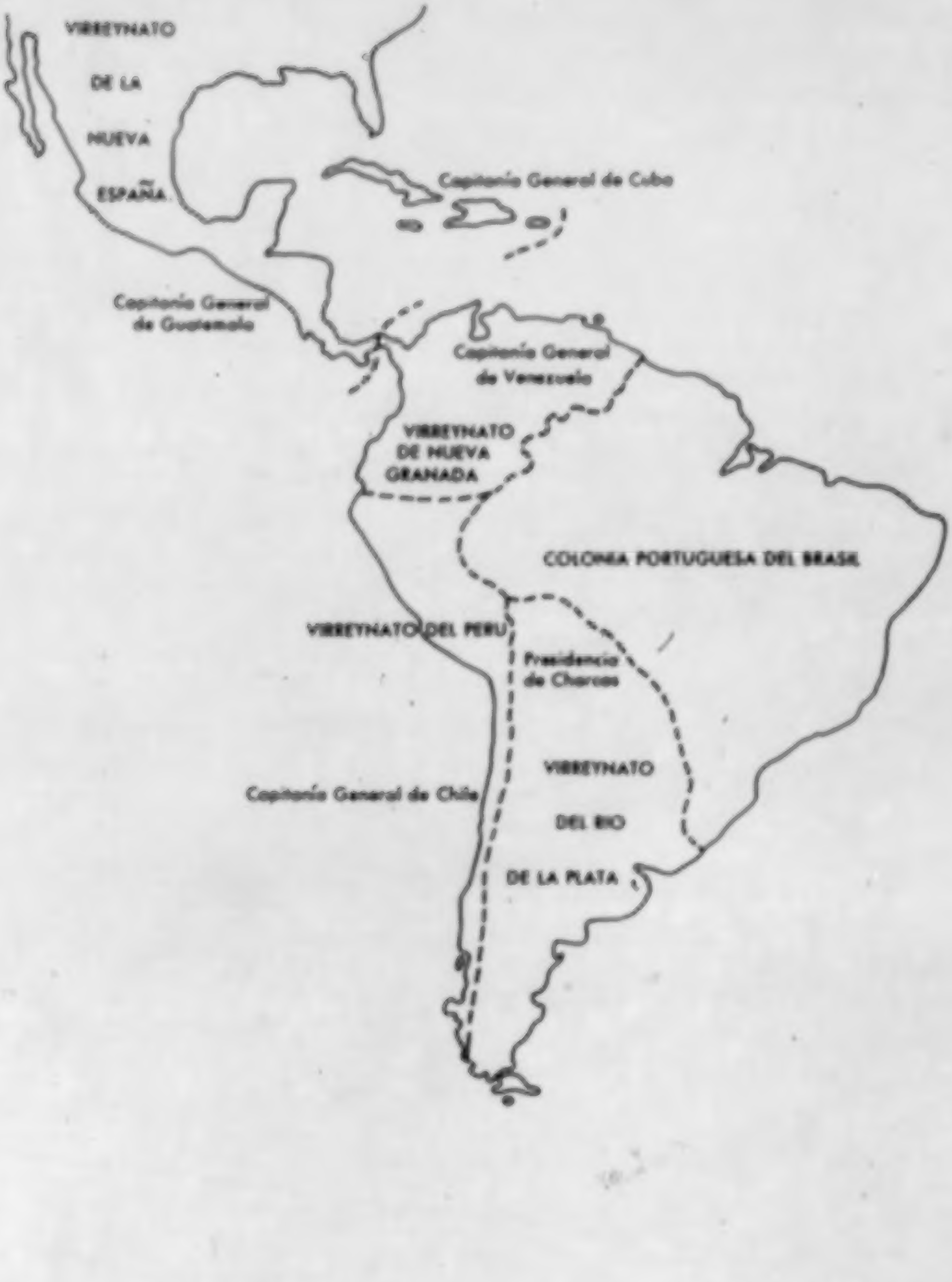
The cases of Argentina and Chile again reflected the influence of local factors on colonization. The captainship of Chile associated with the Viceroyship of Peru had its main importance as an exporter of agricultural products to the mining zones of Potosi; while the zone of the Buenos Aires pampa represented little or no importance since neither gold nor silver was found. Thus Santa Maria de Buenos Aires, founded in 1535, quickly was abandoned and only returned to some relevance as a shipping port for the Potosi products at the beginning of the 18th century, and as a commercial port quite a bit later.

The first important Viceroyships were consequently those of New Spain in Mexico, and Peru. Two centuries later (1718 and 1776) two new Viceroyships were added: that of New Granada and of Rio de la Plata. The Viceroyships were political and economic centres; the captainships were judicial or military districts.

Map A shows the territorial division existing at the beginning of the 19th century.

In Summary:

The first important Viceroyships after the discovery were those of New Spain in Mexico and of Peru. Their creation as centres of political and administrative activity reflects the characteristics of the economic activity with the Metropolis, interested fundamentally in the production and exploitation of goods of great value and little bulk: precious metals, MAP A: Territorial divisions in Latin America during the Colonial period, circa.1800

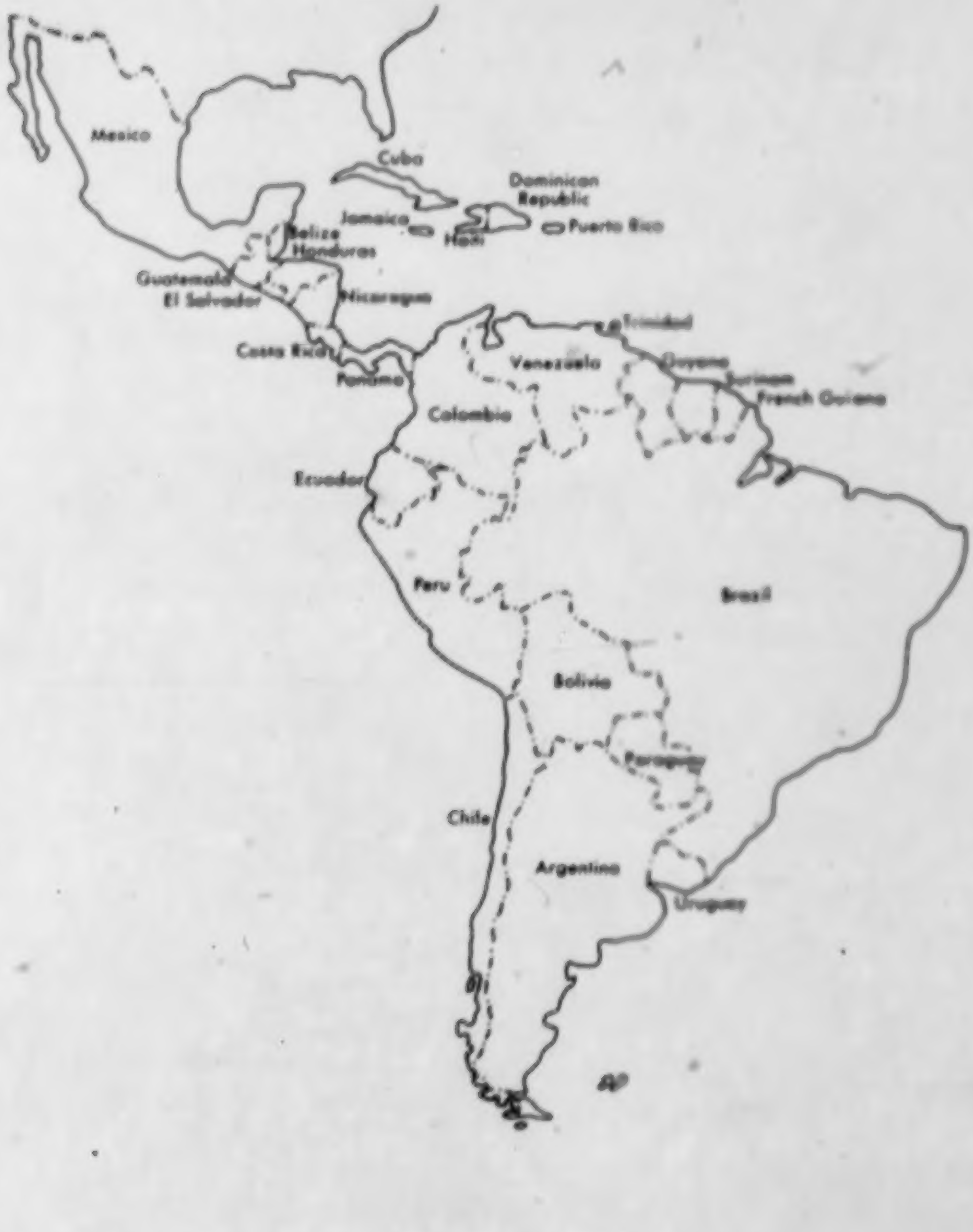

VIRREYNATO
DE LA
NUEVA
ESPAÑA
Capitanía General de Cuba
Capitanía General de Guatemala
Capitanía General de Venezuela
VIRREYNATO DE NUEVA GRANADA
COLONIA PORTUGUESA DEL BRASIL
VIRREYNATO DEL PERU
Presidencia de Charcas
Capitanía General de Chile
VIRREYNATO
DEL RIO
DE LA PLATA

tropical cultivation, and wood. Two important facts: the plan of the conquest - structured on the basis of contracts with adventurers that acted as "partners" with the crown - and the existence of established cultures, serve to explain the concentration of political-economic activities in the two Viceroyships previously mentioned. The creation of the Viceroyships of New Granada and of Rio de la Plata not only represented new centres of administrative and political activities, but also the new tendency that economic activity had at the end of the 18th century.

During this same era, the disorganization of the pseudo-empires of Spain and Portugal arrived at their culmination. The transformations experienced in Europe that changed the internal structure of the international market, and the social movements that took place principally in France and England and later in the United States, did not have a counterpart in Spain or in Portugal, which continued (and to quite a extent still continue) to lag behind Modern Europe. All this resulted in the economic interests of the colonies - particularly those of the new Viceroyships of New Granada and Rio de la Plata - entering into conflict with the commercial style imposed by Spain. Thus, at the beginning of the 19th century, this economic situation, together with the new ideology coming from France and the United States, was transformed into movements of political liberation which started from two poles: from Venezuela with Simon Bolivar, and from Rio de la Plata with San Martin. From 1810 to 1820 the Spanish were defeated, while at the same time the processes of national organization began which resulted in the present political divisions (see Map B).

* * * *

MAP B: Territorial divisions in Latin America, 1976


Mexico
Cuba
Dominican Republic
Jamaica
Haiti
Puerto Rico
Belize
Honduras
Guatemala
El Salvador
Nicaragua
Costa Rica
Panama
Trinidad
Venezuela
Guyana
Surinam
French Guiana
Colombia
Ecuador
Peru
Brazil
Bolivia
Paraguay
Chile
Argentina
Uruguay

B- EDUCATION DURING THE COLONIAL ERA

Formal education during the era of the domination of Spain and Portugal in America followed - with some variations produced by the conquest - the patterns of the Catholic medieval social order that reigned in the metropolis.

For the natives, education was neither desirable nor necessary; they had a determined position in the social structure, which was that of obedience. If there was some type of instruction for the Indians it was consistently of a confessional type, or of the learning of Spanish; and always education had a utility that was defined as functional for the conquest. Education was then evangelization, looking, by means of the indoctrination of the natives, for a lessening of their rebellion against the exploitation and slavery to which they were subjected.

For the lower classes also, education was not considered to be neither necessary or desirable. However, towards the end of the 17th and 18th centuries, there began to function some primary schools for the children of the poor. For the upper classes, Spanish and native elites, education was necessary and important.

The Catholic Church occupied a fundamental place in the colonial system, since it was instrumental not only in the minimization of the restlessness of the Indians, but also in the teaching of Spanish and the later utilization of the Indians in mining and agricultural activities. In the case of the Whites, the church had a monopoly on access to culture and social promotion. The manifest function of the Catholic Church then was that of carrying the Christian faith to the Indians and the Christian cosmovision of the universe to the elites.

The organization of the educational system therefore followed the caste criteria for the aborigines, and that of stratification for the Whites. In the case of the Negroes, these never came to be considered by the Portuguese or Spanish as members of the human race, but rather as animals.

a) Education was first for the elites and secondarily for the rest of the white population. The primary preoccupation was that of creating Institutes of Higher Studies or Universities; by 1551 there were already universities operating in Mexico and Peru, and by the beginnings of the 1600's there were throughout Spanish America a dozen universities. Among them were the University of St. Thomas Aquinas, which was founded in 1538; the Royal University of Mexico, 1551; the University of San Marcos in Lima in 1551, the University of Cordoba in 1613; the University of Sucre in 1623; of Cuzco, in 1692; of La Paz, in 1571; the College of Santiago in Bolivia in 1624; in Guatemala in 1582, the College of San Lucas.

b) The task of educating the Indians and slaves was a task of Spanishization and Christian indoctrination. This job was mostly undertaken by convent friars, who were the first to master the indigenous languages(12). Special attention was dedicated to the education of the children of caciques (Indian chiefs), for whom special scholarships were provided for their attendance at the Institutes of higher education.(13)

c) Higher education was under the charge of the church. Access to the world of letters was made in the following way: together with the colonisers, there arrived priests (mainly from three orders: Jesuits, Dominicans, and Fransiscans). Once the cities were founded, the fathers in the convents took over the evangelization and Spanishization of the Indians. At the same time they created colleges where the Canons, Theology and Philosophy were read. These colleges rapidly acquired the rank of universities, particularly those of the Order of Jesuits, which came to acquire at one time more power than the Crown.(14)

The priests of the secular clergy, close to the Indians and less organized than the religious orders, came at one time to protect the Indian. However, these cases were minimal in comparison with the operations of the organised clergy.

C- EDUCATION DURING INDEPENDENCE AND NATIONAL ORGANIZATION

The conception of education as a national problem, as a formal institution for the socialisation and instruction of new generations, appeared as recently as the political discourse that took place upon the emancipation of the colonies.

However, the indpendence from the Portuguese and Spanish presented from the beginning divergencies of opinions among the national elite with respect to the political status of the new socieities. On the one hand were the groups that proposed total independence from the Metropolis.

On the other, were the interest groups that proposed some type of reform which, maintaining ties with the mother land, would change only the type of relationship.

The ideological roots of both groups are diverse. But in general, the reformist ideology is associated with the Catholic cosmovision and with conservatism. The independentists reflect an interest in the changes that were taking place in Europe and in the United States due to the effects of the Industrial Revolution and of the conceptualizations of the social thinkers of the 17th and 18th centuries.

Although in the long run indpendence from Spain and Portugal predominated throughout all of Latin America, the ideologies of the different groups adapted themselves to the new circumstances of the emancipation - transforming themselves into parties or conservative and liberal political coalitions which still maintain elements of the same original roots.

The passage from movements of liberation to national organization was mediated by a series of internal struggles in which were intermixed not only ideological problems of the nature indicated above, but also problems concerning the power of local groups or interests. This period of transition in general meant alternating advances and delays in the educational system according to who was in power, and for how long. Thus, in spite of a series of laws that were undertaken between independence and the middle of the 19th century, the educational system maintained the same characteristics as during colonial days, particularly with respect to its control by eclesiastical groups, and therefore its close association with their particular goals.

The influence of the struggles for liberation on the educational system in Latin America can be summarized in two propositions:

1. The character of the educational plan with respect to its system of goals, and its association with the national plan for the future, depended greatly on the dynamics of the formation and constitution of the nation-state. That is, the educational system would be incorporated into the political apparatus of the government as soon as the conflicts and internal struggles were resolved, and a nation state actually constituted.

2. The degree of relative advance or regression of the educational system appears tied specifically to the ideology of the dominant group, to its continuity in the exercise of power, and to the structural changes emerging during the period. In more specific terms, education, as a formal system for the socialization of citizens, and its extension to increasingly wide nuclei of the population, was tied to the existence and permanence of "liberal" groups in power.

The examples of Bolivia, Argentina, Mexico and Brazil will serve to illustrate the two propositions indicated above.

In Bolivia during the colonial era, the Indians, having surrendered to the encomiendas and mitas, were not educated, nor were their children. Only as recently as the middle of the 18th century was some effort made to pay some attention to the education of the people, with orders from

King Charles III that schooling was to be extended from the convents and parishes to the "cabildos" with the object of "attending to the new castes of poor creoles and mestizos".(15)

The objective of the reform, it is important to point out, was "to familiarize those being educated with work, and to give each one the trade that corresponded to his nature and talent".(16) That is, education of the masses was perceived as an economic affair.

With the liberation of Bolivia by the army of Simon Bolivar in August of 1825, education took on an importance for Bolivar, fundamentally from the political angle. In his decree of December 11th of the same year, the modern concept of the educational system was manifested in its essence. We will cite this decree completely:

> "Simon Bolivar, Liberator President of the Republic of Colombia, Liberator of Peru, and in charge of the Supreme Mandate of Peru, considering: 1°. that the first duty of the government is to give education to the people, 2nd, that this education should be uniform and general, 3rd, that the establishments of this kind must agree with the laws of the State, 4th, that the health of a Republic depends on the morals that the citizens acquire in infancy from education;...
>
> Decrees: 1) that the Director General of public teaching, instructed about what exists relative to this branch in the entire extension of the Republic, inform the government of the state of the schools and colleges and of the funds which maintain them.
>
> 2) That in order to fulfill this task, the Director has the authority to ask for all the instructions and documents he needs from wherever it corresponds.

3) That the Director propose to the government a plan for the establishment of an institution of teaching that embraces all the branches of instruction, this to be done generally in all of the towns of the Republic.

4) That in the meantime, and without any loss of time, he establish in each city, Department Capital, a primary school with the corresponding diversions, to receive all children of both sexes that are in an instructable state.

5) That a Military School be established, in the Capital of the Republic;

6) That for the College of Arts and Science, the college now named "San Juan" of this city, be prepared and made available according to its new destiny.

7) That while the buildings to be occupied by primary and military schools are being constructed, these schools use the San Juan College.

8) That in the visit which the Director must make to all of the capitals of the Departments, he designate in consultation with the Presidents, the best buildings for the use of the Colleges of Arts and Sciences and the primary school, that must be established in conformance with those of Chuquisaca.

9) That for the funds for these establishments, in each department, there be assigned: i) all the real estate, rental income, and shares of decree of this day. ii) the taxes charged for each fanega of wheat upon entering the cities, while this tax is not abolished.

10) That the assets of these establishments will be not only the estates recognized by the census, but also the proceeds from i) the census funds, ii) the Pia de Paria works, founded by Don Lorenzo Aldana, iii) the monasteries, which are now suspended.

11) That all of these funds be reunited under only

> one administration in each Department, subject to a General Direction.
>
> 12) That for these administrations, the government name persons of responsibility and with reliable finances, under whose charge will be the renting of the estates and the collecting of the income that they produce; setting aside for them for their work 5 per cent of the total incomes that they collect.
>
> 13) That the General Direction have a competent endowment.
>
> 14) That the administrators deposit for now, in the public funds, the income under their charge, as it is collected...
>
> 15) That this deposit be absolutely separated from all others, and that in no case any other use other than for which it is assigned, be made of it.
>
> 16) The government promises to set aside in favour of education, all the savings which in the future can be made in the arrangment of other branches of public administration.
>
> 17) The interim Secretary General is to be in charge of this decree.
>
> Given in the Government Palace in Chuquisaca, the 11th of December of 1825. Simon Bolivar - Santiago Estenos-/

Having produced the decree, Bolivar named his teacher, Simon Rodriquez, an extraordinary visionary of the role of education in political, economic and social development, as the Director General of Education. Rodriquez then promoted a series of decrees and regulations among which we point out the following, of December 31, 1826:

> Instruction Plan, by means of the establishment of Primary, Secondary, and Central schools;

College of Arts and Sciences; a National Institute, Societies of Literature and Masters of Arts and Trades.

The Constituent General Congress of Bolivia, has sanctioned and decrees the following law:

CHAPTER I

OF THE SCHOOLS OF FIRST LETTERS

1) In all the canton capitals and towns of more than 200 souls, a primary school will be established in which reading and writing will be taught by the method of mutual teaching, the rudimentaries of religion, morals, and agriculture, by very compendious catechisms;

2) In the provincial capitals, in addition to primary schools, secondary schools will be established; in these, reading and writing to perfection will be taught, as well as religion and morals; furthermore, the general rudimentaries of Spanish Grammar, the four rules of Arithmetic, Agriculture, Industry, and Veterinarianism will be taught, by catechisms.

3) In the Departmental capitals, there will be central schools, in addition to primary and secondary ones, and they will teach for now Arithmetic, Spanish Grammar, Drawing and Design, completely.

4) To the Central Schools will pass only those that have manifested natural dispositions for learning, following a report from the teachers.

5) All these teachers will be named by the Prefects, on the proposition of the Boards of Welfare.

6) The primary school teachers will have a salary of 180 pesos annually, secondary, 240, those that teach Arithmetic and Spanish Grammar in the Central Schools, 300 pesos, and those that teach drawing and design, 200 pesos.

7) Children of families that are not notoriously poor will pay the teachers 2 reales a month in the primary schools and 4 reales in the secondary schools.

8) The classification of notoriously poor families corresponds in the Department Capitals, to the Welfare Boards and in the provinces and cantons, to the Governors and magistrates in consortim with the respective Parrish.

CHAPTER II

OF THE ARTS AND SCIENCE COLLEGES

9) In the Department Capitals, there will be a college in which the Spanish languages, Latin, French, and English Poetry, Rhetoric, Philosophy, Law and Medicine will be taught, all in Spanish;

10) The Philosophy course will include eleven parts: i) Ideology, ii) Morals, iii) Algebra and Elemental and Transcendental Geometry, iv) to viii) the five physical-mathematical sciences, ix) and x) elements of Natural History, Botany and Agriculture, and xi) Anatomy, Physiology. The professor of mathematics will train the students in Geography, that of Philosophy in Chronology and in the rudiments of Ancient and Modern History.

11) Nodbody will be admitted to this course without having previously passed Spanish Grammar and Rhetoric; the professors of Eloquence should teach elements of Poetry and Rhetoric to the grammar students.

12) Only after having finished the Philosophy course can the children take up the study of Jurisprudence or Medicine, or pass to the study of Eclesiastical Sciences; furthermore, those that study Philosophy outside of the Colleges will not proceed to the Jurisprudence of Medicine courses without previously being examined in the materials designated in Article 10.

13) The Jurisprudence course will include eight parts: i) Natural Law and Law of People, ii) Political Economy, iii) National Public Law, the Constitution of Organic Laws of the Republic, iv) History of Roman Law, v) Private or Civil Law, vi) Penal Code, vii) Procedures, viii) Mercantile and Maritime Code. During this course the professors of eloqunce will train the students in oratory.

14) The Medicine course will be divided into eight parts: i) General and Particular Anatomy, ii) Physiology and Hygiene, iii) Pathology and Pathological Anatomy, iv) Therapeutics and Medical material, v) Surgical affects, Medical and Obstetrical Affects; vi) Medical Surgical Clinic; vii) Legal and Public Medicine; viii) Pharmaceutical Material and Experimental Pharmacy.

15) To teach these faculties there will be eight professors; one for Spanish and Latin, one for foreign languages, one for Poetry, Eloquence and Morals, one for Mathematics and Agriculture, one for Jurisprudence, one for Philosophy, and one for Medicine, each one having the income that the government authorizes; to be named the first time only by the Governor and following that by proposal of the National Institute.

16) The moral regime of the colleges will be under a Rector: the professional, under a Vice-Rector or Regent of Studies; and the economical, under a minister, these latter two subordinated to the first. These superiors, the same as the professors, may, according to their aptitudes, occupy themselves in the teaching of one or more faculties, with their respective salaries.

17) The number of students supported by the colleges, and the salaries of the superiors, will be the same as that determined...; where this is not determined, it will be decided by the government in proportion to its population and income.

18) The examinations will be public, with the concurrence of at least five professors. In a book designed for this, all graduates will be

recorded and signed by the superiors and by the secretary.

A public testimony in legal form and signed with the seal of each College will be sufficient diploma so that the youths that have finished their courses will be admitted to practice and graduate as lawyers or doctors.

19) Those that have any university degree, or those that in the year 27 present documents from the respective Colleges, having completed the necessary faculties in the old form, are included in the objects of the previous article.

20) The minister of each College will be secretary. The interested party will receive free the report or testimony of his courses.

21) In the cities of Potosi and La Paz, schools of Minerology will be established to teach i) Geometry, subterranean Architecture; ii) elements of Chemistry and Minerology, iii) the practical art of exploiting and founding all classes of metals; for this, small chemistry laboratories will be established.

22) In the capital of the Republic will be taught, in addition to the faculties that are given in the departmental Colleges, History of Literature, Complete Mathematics, Chemistry and Botany, Painting, Sculpture, Printing and Music...

23) The Government will provide the teachers for the teaching of said faculties, assigning them the salary deemed convenient.

CHAPTER III

OF THE NATIONAL INSTITUTE

24) In the capital of the Republic, there will be a literary establishment, denominated the National Institute.

25) The object of this establishment will be:
i) to work in the progresses of science and arts, ii) to diffuse in all of the territory of

the Republic the useful and agreeable knowledge, iii) to teach Sciences and Fine Arts in the capital, iv) to present to the Chamber of Censors the rules and reforms throught to be necessary for its interior regime as well as for the schools, colleges and departmental societies, for its approval, v) to take care of the Library, National Museum, and Botanical Garden, laboratory and physical and astronomical instruments, anatomical amphitheatre and astronomical observatory and whatever in this order belongs to the national Republic and is found in the capital.

26) The Institute will have a Director, two Vice-Directors, thirty numerary members divided into six sections, a Secretary, and a Doorman.

27) To the first section will belong the professors of Poetry, Eloquence and History; to the second, the Physicists; to the third the Mathematicians; to the fourth, the Chemists, Minerologists and Botanists; to the fith, the Doctors and Pharmacists, to the sixth, the Lawyers, Economists and Politicians.

28) The government of the Institute will be under the charge of a Director, and in his default, one of the Vice-Directors, in the order of the naming.

29) All of the individuals which make up the Institute will in the first place be named by the Supreme Government, which will be the protector of this establishment, but succeeding vacancies will be filled by election by the body, made by absolute plurality of votes of the individuals of the Institute.

30) The terms of the Directors and Vice-Directors will last three years and will be honorable, also they can be reelected for a further three years. The numerary members will last as long as does their devotion and good services.

31) The Institute, by absolute plurality of voters, could admit as members anyone residing

> in the capital, and as honorary members the absent writers that serve the nation with their talents.
>
> 32) The Institute will meet in public two times a month, to examine the works of its individuals and fulfill the other objects of its establishment.
>
> 33) The Secretary of the Institute will have an endowment of 500 pesos annually, and the Doorman, 200 pesos. The salaries of the printers and subordinates will be graded by the Government, previously informed by the Director.
>
> 34) It will have a printing office for its service, as well as a house with all the comforts that its attentions demand.
>
> 35) Learning and teaching at any of the faculties in this law is gratuitous.

Chapter IV of the plan called for the establishment of Literary Societies in the department capitals, and Chapter V, concerning the teaching of arts and trades was as follows:

CHAPTER V

OF TEACHING OF ARTS AND TRADES

> 45) In the capital of each department, a house will de designated to establish "Masters" in arts and trades.
>
> 46) There will be in these houses twelve large offices, in which the workshops can be accommodated, with possible separation.
>
> 47) The prefects, at the proposal of the beneficiary boards, will see that a well-accredited teacher of each art or trade will put his workshop in this house, will work and teach the children that wish to attend.
>
> 48) These teachers will receive 100 pesos annually

> as gratification from the State...
>
> 49) In each house there will be a Director endowed with 200 pesos to maintain order, security, and vigilate the teachings of the teachers and work of the apprentices; he will, with three members of the Beneficiary Board, visit the offices every 15 days.
>
> 50) The Executive Power is authorised to make, with the funds destined to public good, according circumstances permit, the expenses that the fulfillment of this law demand and to augment or decrease the endowment if he deems it necessary.
>
> Communicated to the Executive Power for publication and fulfillment, Given in the Salon of Sessions, in Chuquisaca, the 31st of December of 1826. Mariano Guzman, President. Jose Questaguio Equivar, Deputy Secretary, Jose Maria Salinas, Secretary. Government Palace, Chuquisaca, the 9th of January of 1827. Execute. Antonio Jose de Sucre, Minister of the Interior, Facundo Infant.

* * * *

The educational laws inspired in the European tradition of the Enlightenment, which were to revolutionize the political and social systems of the new nation, immediately entered into coalition with the groups of created interests which were going to be affected. And in a revolt produced in 1828, Simon Rodriquez was stripped of his position. Santa Cruz came to power, annuled Bolivar's Constitution and with this Volivia "returned to the Colonial structure, to its feudal economy and its politics of privilege".(17) Education then returned to its cloisters and the essential preoccupation continued to be the indoctrination of the elites (for example, the University of La Paz, in 1820, of San Simon de Cochabamba in 1832, and some normal schools were created). An Bolivia, which was the first nation to present programmes of a modern educational system, has the doubtful heritage, with the Santa Cruz resolutions, of still being one of the most backward nations in Latin America in education.

The case of Argentina, with Sarmiento and the generation of 1837, exemplifies again the fact that the visualization of the modern state, and of the role that the educational systems play in it, is nothing new. Sarmiento, inspired by Tocqueville, principally, and by European and American thinkers such as Rousseau, Jefferson, and Franklin, among others, is perhaps the one who best expressed the integration of the educational systems into the general plan of American's modernization. In his essays, he arrives at diagnostics in which the progress which obsessed him is based on three basic government programmes: communication routes, population, and education. The theme of Sarmiento was that of educating the citizen, that of preparing the ignorant masses, the savage gaucho, for political, technical, and industrial evolution.

Although for the first generation of Argentinian patriots (Belgrano, Moreno, San Martin) the dominant ideology was that of illuminism (history is made by reason, the social order is guaranteed and based on the rationality of free men, etc.), for the second generation, to which belonged Sarmiento, Echeverria, and Alverdi, the dominant ideology was that of French Nationalism (resurgence of nationality) and of English and North American liberalism, of respect for the law and industry. For Alberdi, for example, "to govern is to populate"; for Sarmiento, "to govern is to educate the citizen".

The generation of 1837 perceived, in the Argentina of the times, the influence of a medieval world which had to be eliminated at the roots. For them it was not a matter of this medieval world being a function of the type of social organization or of modes of production, but rather of the cultural world, of the persistence of the Spain of the Inquisition, meridional and Catholic, traditional, enemy of change and of progress. This, Sarmiento wished to replace with the social organization and production of the England and United States of the industrial society, which meant free commerce, freedom of press, habeus corpus, in short, a civilization that embraced all branches of human culture.

Ghioldi synthesizes well the thinking of Sarmiento when he affirms:

> "The tendencies that the historic development of Argentinian education uncover are fundamentally the secularization of its government, the modernization of the plan, the democratization of its organization of its organization and destiny and the substitution of the universal theological spirit by the national spirit founded in conception of historical philosophy. May puts an end to our ancient and medieval world and inaugurates the modern times. It incorporates live languages, the natural sciences, civil laws, human and national history, the secularized philosophy. The celestial encyclopedia taught during the colonial era with beings and tables of fixed ideas, yields to the secular sciences. From the supernatural that was taught to a few,

> we pass in the order of teaching to the diffusion of science of the natural and the human for a greater number, and in the elemental for the entire people. Such is the trajectory of the educational institutions of Argentina; Sarmiento is interpreter and promotor of the great changes that history imposed on public teaching."(18)

Further on, he points out:

> "All the elements and factors of modern educational policy are given in an express manner in Sarmiento; from among them, the following can be pointed out as essential: the full comprehension of the meaning and movement of modern societies that link in one unique operation the transformation by the educational technique and structure; the political and historical philosophy which provides the characterization of the ideals of a people, which should be conceived in tradition by the school; the modern definition of the state as a social and secure state and therefore an educating state and a teaching state; the technical-pedagogical organization with indication of the content of the study plan and of precise didactic norms; and the administrative organization governed by criteria of efficiency and economy, by principles of control and responsibility, with the intervention of authorities and parents; the formation of teachers in special establishments called normal schools; the bases of school legislation, of the finances and of statistics as indispensable elements for the construction of the educational system."(19)

Beyond the enthusiasm of Ghioldi and the real fact that Sarmiento and his generation effectively prepared the bases and all the superstructural apparatus for the policy of modernization, not only of education, but also of the state, it is evident that, although Argentina managed to incorporate the masses into the educational system relatively earlier than the rest of the Latin American countries, the ambitions of Sarmiento and his generation and their plans for the future were never completed. This was due, first to the dictatorship of Rosas and the influence of the regional "caudillos" who never managed to really understand what the liberal generation was talking about; and then, because at the time of national integration (some thirty years later), the character of the plan changed substantially. Secondly, the failure occurred because the infrastructural bases that would allow the realization of these ideals were never completed, because the structures of production were not modified because the most egualitarian model of land distribution - on the style of the American farmer - propagated by Sarmiento's generation, was not implemented; because the bases themselves that make relationships among men were not modified. For all these reasons, the growth and "effectiveness" of the educational system had its preestablished limits.

Sarmiento and his generation, on diagnosing the problems of their time, choose the best of the options then available. The poles of the contradiction were the "barbarity" represented by the desert, the dispersion of the population, the Spain of the Inquisition, the undisciplined and irrational gaucho, versus the "civilization" represented by the associationism of the Tocqueville and by the liberal and modern ideas of industrial civilization. The contrast was visualized in terms that sociologists of two or three generations later would conceptualize as the roots of the problem of modernization.(20) We are referring to the distinction between ideal types, between the traditional socieities and modern socieities of Parsons and Germani, to the Gemeinschaft-Gessellschaft of Toennies; to the mechanical solidarity-organic solidarity of Durkheim, and above all, to the processes of secularization and of bureaucratization of Weber.

It is clear, then, that the educational systems in Latin America are backward, not because of the lack of incorporation of the modern idea of education and of system organization, and not because of the visualization by its leaders of the nature of the educational process and its role in industrial socieities. It is more a question of political problems, of interest groups, of systems of domination that impede the implementation of modern ideas.

The case of Mexico presents some differences in comparison with the Argentinian situation. Although both countries achieved independence from Spain in the same year (1810), the constitution of the Mexican nation-state occurred 100 years after its independence. Thus, in spite of some sporadic attempts to adapt the educational structure to the new characteristics of the nation, the educational systems continued under the charge of the Church, consequently maintaining their colonial characteristics. In terms of laws, as early as 1829 some decrees were passed by which education came under the exclusive management of the State. However, in spite of the law, the implementation of the infrastructural means to support the principles of the law were not achieved, and the educational task continued therefore under the charge of the Church.(21)

As late as 1857, with the arrival of a Mexican reformist government in power, education returned to presenting itself as an instrument of change, as a motor of progress within a liberal-type plan similar in ideology of change to that of the Argentine generation of 1837. By a series of decrees of the government, education was declared obligatory and free. But again, the monopoly of the state in educational material remained simply at a nominal level. As late as 1891, there were outlines of state control, but restricted to the Federal District. In spite of the law of obligatory and free education of 1857, in 1907 "only 25 per cent of the school-age children attended school."(22)

With the advent of the peasant movement of 1910 and the triumph of the revolution of the popular masses, the government began to win some type of effective control over education. The Constitution of 1917, in Articles 3 and 130, declared education to be a function of the Central Government, declaring at the same time religious primary schools to be illegal. The control and the administration of the school system came to be the sphere of local and state governments. With Jose Vasconcellos in 1921, Mexican education passed from a mere decree of law to the implementation of a series of measures that would give the state effective control of education: the training of teachers, revision of programmes for rural schools, infrastructure. With Vasconcellos, the educational budget passed from one per cent of the national budget to 12 per cent in 1922 and to 15 per cent in 1923.

Consequently, there were consolidations of the educational system and this began to acquire efficiency in terms of the effective incorporation of the masses into the system. However, in spite of the enormous progress achieved, there are many factors still outside of control, in spite of all the revolutionary and socialist rhetoric of the last 20 or 30 years. In later chapters we will analyse in detail the educational situation in contemporary Mexico.

The case of Brazil is even clearer than the Mexican case. During the Colonial era, what little cultural life existed developed principally in the Jesuit convents, in which, in the middle of the 18th century, some colleges or seminaries operated.(23) Brazil was established as an Independent Empire from Portugal in 1822; immediately there were issued a series of decrees and legislations that tried to replicate the cultural conditions of the Metropolis. The educational model was based principally on private initiative. However, the lack of teachers, schools, and capital, left these initiatives as mere plans. The Brazilian Republic was proclaimed only in 1889, being of a fundamentally oligarchic character. The political dominion of latifundist and merchant elite represented in educational terms, really a regression of the educational system in relation to the last years of the Empire, when some 600 primary schools operated in all of Brazil. Of course, only 3.1 per cent of the population attended.(24)

In 1911, "free exams" were institutionalized, by which the student prepared himself on his own or with private professors and presented himself for examinations whenever he considered it convenient. Thought the country had between 75 and 80 per cent of its population rural, education was predominantly for urban sectors.

The Brazilian oligarchic state continued in power until 1930, when the liberal ideas that had echoed in other countries in the mid 1800's began to appear in that country. The world crisis of 1928 and the economic changes produced on the international level as an effect of World War I, initiated in Brazil a series of social transformations. The fathers of the modern Brazilian educational system belong then to the 20th century, and educational system actually beginning to be founded between 1920 and 1940.

In 1920, 75 per cent of the adult population in Brazil was illiterate, and the measures taken at that time to combat the rate of illiteracy and not the illiteracy itself, resulted in an empoverishing of the system. This was due to the reduction of oligatory primary schooling of 3 years in rural areas and 4 years in urban areas, with teachers unqualified for teaching; the entire primary system was limited to the teaching of reading and writing and basic arithmetical operations.

For 1950, in spite of all the educational reforms and a limited implementation of modern teaching methods, 52 per cent of the population 10 years old and above was illiterate.

In Summary:

With relative degrees of progress or regression, the Latin American countries were incorporating into government programmes the modern ideas of education and the concept of its decisive importance in the process of the formation of citizens. Education in the periods of independence, when it formed part of liberal government programmes, was to acquire characteristics of the national plan with political rather than economic meaning.

The Latin American educational systems are not, then, backward exclusively due to the lack of conception of the elites in power of the role that education has in the social processes of modernization and in the economics of industrialization. It seems correct to assume that the ascent to power of liberal groups during the epoch of national integration, and the character of an anti-conservative and modernist national plan in the superstructure, together with effective action in terms of educational programming with the consequent idea of systematic organization - explains in part the relative advances of education among the several Latin American countries.

The weight of the infrastructural factors (such as organization of the economy, problems of ecological distribution of the population, etc.) are dominant factors. However, the determining factors of advance or backwardness of the system seem to be related more closely to the power structure, to the future plans of a progressive character, to the permanence in power of these groups, and to the degree of control and legitimacy over adversary groups.

FOOTNOTES

1. It would be interesting here to speculate further, if time permitted, concerning the fact that liberal thinking appears mediated by the North American thinkers of the colony recently liberated from English domination.

2. Steins, S, and Stein, B. The Colonial Heritage of Latin America; Essays on Economic Dependence. New York, Oxford University Press, 1970.

3. It has been said that the Queen sold her jewelery in order to finance the trips of the adventurer.

4. If Columbus had actually reached Asia, the claims of Portugal would have had to be taken into account according to international law prevailing in those times.

5. The great part of the territory thus stayed in the hands of the Spanish; however, later reclamations on the part of Portugal led to a modification of the lines, which, by the Treaty of Todecillas, were displaced to 370 leagues, instead of the original 100.

6. The nature of the type of product and the form of conquest were modulated by the structural factors mentioned, as well as by the problems of strategy in the transporation of the wealth towards the metropolis (principally weight), and by the characteristics of the places to be conquered. This is very clear in the case of Brazil, where the original perceived wealth was wood, which at first resulted anti-economical to transport.

7. Cortes conquered Mexico with less than 600 soldiers and 16 horses; Pizarro conquered Peru with 183 men and 37 horses; Valdivia conquered Chile with 200 soldiers. It must be taken into account that all the conquerors also counted on slaves and on the complicity of conflicting tribes.

8. This is the demographic hecatomb to which Furtado refers, which we mentioned in Chapter I, and which resulted in the genocride of the tribes and civilizations that occupied Mexico and Peru...this genocide was as much a product of the direct annihilation by assassination as it was of indirect, but no less effective, annihilation by hunger, over-exploitation, and new illnesses.

9. The counterpart of the system of encomiendas for agriculture was

the mita in mining, by which the Indians were enslaved and forced to work in the mines under disastrous conditions.

10. See especially in J.R. Moreira: Educacion e Desenvolvimiento no Brasil. Centro Latinoamericano do Pesguisas en Ciencias Socias, Rio de Janeiro, Brazil, 1960.

11. Brazil was originally divided into 14 Captainships or fiefs.

12. These friars published the first treatises on linguistics, this being very important in the communication between the conquerors and the conquered; they tried to establish as policy the obligation of the religious orders to learn a native tongue.

13. See especially in Carlos Gonzalez Orellano, Historia de la Educacion en Guetemala, Amic Ed., Mexico, 1960.

14. This in the long run brought the expulsion of the Jesuits from America in 1760.

15. F. Saurez Arnes, Historia de la Educacion en Bolivia, Editorial Trabajo, La Paz, Bolivia, 1963 (page 28). This type of reform proposed by Charles III was closely tied to the expulsion of the Jesuits from America.

16. Extracted from the Revista de la Ciudad de Chuquisaca, No. 2, pages 396-398, by Saurez Arnes, op. cit. page 29.

17. ibid.

18. Ghioldi, A.; Mantorani, J. et al.: Sarmiento: Educador, Sociologo, Escritor, Politico; Universidait Nacional de Buenos Aires, 1963.

19. ibid.

20. See especially, J. Vasquez, Nacionalism y Educacion In Mexico, El Colegio de Mexico, 1970 (in Spanish).

21. ibid.

22. Krieller, G.F., The Education of the Mexican Nation, Columbia University Press, New York, 1951.

23. It is important to point out that during the colonial era, no university operated in Brazil, but only the Colleges and Seminaries, principally on the secondary school level. The monopely of the Jesuits in Brazilian education had important repercussions with their expulsion.

24. See especially J. Roberto Moreira, op. cit.

PART II

THE INTERNAL EFFICIENCY OF THE FORMAL EDUCATIONAL SYSTEM

CHAPTER IV

EDUCATIONAL SYSTEMS IN CONTEMPORARY LATIN AMERICA

National organization - whose principal significance was the finalization of the civil wars, the rupture of international isolation, and the consolidation of socio-political programs for the new political unit - was prolonged in the majority of Latin American countries until the last two decades of the 19th century, and in some, until the first two decades of the 20th century.

At the same time, the dynamic of the economic systems of the new nation-states accommodated itself to the changing situation of the structure of international commerce and to the new international division of labour born as a consequence of the Industrial Revolution.

In accordance with the patterns pointed out in the previous chapter regarding future plans of the dominant groups and the extent of definitive achievement of national organization, the countries began paying more attention to the organization and stabilization of their educational systems.

The efforts made in the educational field and their relative successes seem to be the direct consequence of a series of factors, among which we should point out the following:

a) The dynamics and the structure of the economic and social systems of each nation;

b) The internal and external pressures to augment the educational levels of the population.

Each one of these processes is part of a general process of social and economic change that would affect in various ways the different countries of the area. We will deal with each of these processes separately, taking as a common denominator the dynamic of the general process, which we will characterize as a process of integration of the Latin American societies to the international capitalist schema of division of labour. This integration will be examined from the economic perspective as a process of industrialization, and from the sociological perspective as a process of modernization.

A. THE DYNAMIC OF THE LATIN AMERICAN ECONOMIC SYSTEMS

The international economic system in the middle of the 19th century was transformed radically by the effects of the Industrial Revolution. Before the Industrial Revolution and the international division of labour, the distinction between development and undevelopment was irrelevant, since the category of development was nonexistent. The system of economic relations prior to the Industrial Revolution is simply a system of colonialism, or of direct appropriation of production, of commercial relations without structuration on a world scale.

The category "development-undevelopment" is a rational dichotomy that began to take on relevance associated with the processes of industrial activity and with the mechanisms of the international division of labour based on a world capitalist market. The set of countries then formed a schema of interdependency, where some are dominated and others dominate. In the period between the middle of the 1800's and the First World War, the world economy entered into a period of rapid growth, a direct consequence of the applications of the new technology to the processes of production. Celso Furtado maintains, rightly so, that:

> "From the Industrial Revolution on, the acceleration of the rhythm of growth of the production of goods and services created the possibility of duplicating in the lapse of one generation, the purchasing power of a community."(1)

However, the structuration of the world market was realized on the bases of hegemonic centers and diverse degrees of dependence, and consequently of differential growth-potential for the "satellite", according to the type of material of exportation.

Furtado points out three fundamental aspects of the formation of the new world economic system:

i) The existence of a nucleus considerably advanced in the process of capitalization, or capital accumulation, concentrating a great part of industrial activity and practically all of the production of equipment; this nucleus is also the centre that finances a world exportation of capital goods, controls the infrastructure of transportation of international commerce, and is the principal importing market for primary products.

ii) The formation of a system of international division of labour under the hegemony of the centre of growth previously indicated; the stimulation of specialization favours the rapid populating of the large empty spaces of the regions with temperate climate and the articulation of other areas to the world market by means of the exportation of prime materials.

iii) The creation of a net of transmission of the technological progress, subsiduary to the system of the international division of labour; this net facilitates the exportation of capital and at the same time ties this exportation to the aforementioned schema of division of labour, which it tends to consolidate; as the industry of capital goods is localized in the aforementioned nucleus, the creation of new techniques of production also remain geographically concentrated, benefiting the activities of the dominant economy of these which serve this more directly.(2)

That is, a scheme was inaugurated in which the terms of interchange between satellite and metropolis are those of importation of prime materials by metropolis and exportation of manufactured goods.

However, the total process is of a more dynamic character, arriving, according to the circumstances, at a process of internal industrialization in the dependent countries. The transition of primary economies towards industrial-type economies in Latin America will depend on the relationships with the metropolis, particularly on the type of exporting activity, the quantity and type of labour force required, the type of ownership of investment (foreign or local, direct or indirect) and the magnitude of the exporting sector, amongst other factors.

The Latin American economies that export primary materials can be classified in three types: temperate-zone economies exporting agricultural-cattle products (wheat, linen, meat, wools); torrid-zone economies that export agricultural products (coffee, sugar, cotton, fruits); and economies that export mineral products.

1. The economies exporting temperate-zone agricultural products (Argentina and Uruguay), were rapidly integrated into the new specialized scheme of the international division of labour in a way that favoured the early growth of some industrial-type activity or a market of manufactured goods. The first effect of the integration, in the second half of the 19th century particularly in Argentina, was the rapid disappearance of local artesan activities that were not in condition to compete with imported products from England. Thus practically all the manufactured products were imported; for example, leathers were exported and boots were

imported, wool was exported and fabrics were imported.

However, the procedures of extensive agriculture, together with the scarcity of a local labour force, forced in the last two decades of the 1800's the establishment of an open immigration policy - particularly from Europe - which found its rationality not only in economic activity but also in the future plans of the generation of 37 mentioned in the previous chapter and in what now will be called the Generation of 80. This corresponds to the period immediately posterior to national integration.(3)

The volume of the immigration is detailed in Chapter II. What is interesting to point out here is that the importation of labour demanded - to attract it - the existence of salaries which were competitive on the international level. The exporting economies of Argentina and Uruguay had a quite significant magnitude, managing to cover very extended areas of the country - principally the "pampa" zone. At the same time, the type of infrastructure required for the exportation of cereals, meat, and wool strengthened a very extensive net of roads and railroads, whose alternative use as an economic good was significant. All these factors joined together so that the salaried Argentina population was integrated to a market economy, consequently producing a growth in manufacturing activities before the beginning of the First World War, which in some degree changed the conditions of the international market.(4)

2. The economies exporting tropic-zone agricultural products include the majority of Latin American countries (Brazil, Costa Rica,

the Dominican Republic, Haiti, as well as certain regions of Mexico and Venezuela). The principal characteristic of the economy of exportation is that the products entered into direct competition not only with products from colonial regions of Africa and Asia, but also with the southern zone of the United States. While the agricultural-cattle production of the temperate zones stimulated the creation of new agricultural technologies in these countries, the type of agricultural production of the tropical zones continued to be tied to the traditional methods of production and transportation, which did not favour the diffusion of an infrastructure with an alternative economic use. With respect to the salaries and to the employment structure, although manual labour was employed in an extensive way, this need was satisfied with local labour with low salary levels. The exception to this general rule, perhaps, was the coffee region of Sao Paulo, Brazil, where coffee production served as a dynamic factor until the 1929 crisis.

3. The countries exporting minerals (Chile, Peru, Bolivia, and Mexico) formed a capital-intensive type of exportation with little utilization of labour, and with a highly specialized infrastructure, so that its impact on the national economy was quite low. Furthermore, for the period we are considering, a displacement of property was produced, from local producers to foreign companies that worked with a lot of capital and with great intensity. Bolivia, as Celso Furtado points out, is a typical example of an exporting mining economy

> "that absorbs an insignificant part of the labour force at a very low salary; the infrastructure created by the mining economy does not have much significance for other economic activities; in summary, in the exporting sector the same pattern of economy structure that prevailed in the traditional sectors is reproduced, excluding the working masses from the benefits derived from the increases in productivity."(5)

In Summary:

Before the world crisis of 1929, some countries - above all the temperate-zone exporters of agricultural and cattle products (Argentina and Uruguay), the mixed agricultural-mining economies (such as Mexico), coffee and cocoa-producing areas (Brazil and Colombia), and mining and saltpeter-producing areas that had legislated positively in terms of control by the state in the flow of capital (Chile), achieved a certain level of industrialization from the effect of the rapid expansion of their exporting activities.

In 1929 the participation of the industrial sector in the gross national product was the following, for some countries:(6)

Argentina	22.8%
Mexico	14.2%
Brazil	11.7%
Chile	7.9%
Colombia	6.2%

* * * *

The second stage in the process of industrialization in Latin America was produced as a consequence of the world crisis of 1929 and the contraction of the exporting sector. In the long run the crisis inaugurated the period of industrialization by substitution of imports in some countries and in others, the retrogression for some time to economies of the pre-capitalist type (subsistence agriculture and artesan work).

The coefficient of industrialization (per cent of labour force employed in industry) evolved greatly in the next decades, in the following way.

TABLE 13: EVOLUTION OF THE COEFFICIENTS OF INDUSTRIALIZATION IN SOME LATIN AMERICAN COUNTRIES, FOR VARIOUS PERIODS.

Year	Argentina	Mexico	Brazil	Chile	Colombia
1929	22.8	14.2	11.7	7.9	6.2
1937	25.6	16.7	13.1	11.3	7.5
1947	31.1	19.8	17.3	17.3	11.5
1957	32.4	21.7	23.1	19.7	16.2

Source: C. Furtado: op. cit., page 111.

However, this industrialization by substitution of imports was accompanied by processes of inflationary disequilibrium which would profoundly affect the less-favoured social sectors.

The important thing to point out here is the following. The vision of one Latin America, stereotyped in the traditional and non-traditional texts written outside of the area as a homogenous region composed of static societies of a feudal type, with economic systems concentrated on the primary sector of the economy, is false. Reality is of a more dynamic character. Latin American development has not been equal and uniform for all the countries of the area: pronounced differences exist with respect to the levels achieved.

However, it is clear that industrialization in the area follows the patterns marked by the dynamic of the international market and always with the characteristic of peripheral (as opposed to central) economies. The common determinant of the processes of industrialization is evidently the way in which the economies of the particular societies unite themselves with the international capitalist market. For various economists of CEPAL (Economic Commission for Latin America), there are two fundamental stages in the process of development: a) the stage of development towards the exterior - economies of exportation; and b) the stage of development towards the interior - by substitution of imports. The first of the stages corresponding to the development of exporting economies extends approximately from the end of the 19th century to the world crisis of 1929. The stage of development towards the interior, runs from 1930 to the present.

From a more sociological perspective, but within the same general scheme of CEPAL, F.H. Cardoso(7) establishes two types of situations:

a) the situation in which the constitution of the national state and the formation of civil societies occurred through the action of social groups that achieved control of the exporting productive system, transforming themselves, although embryonically into "bourgoisie" of a national character; and b) the situation in which the fundamental economic push of the exporting system was based on the monopolization of the export production through foreign enclaves.

Whatever the explicative theoretical criteria, it is possible, taking into account the degree of development of the productive system, to classify at least three types of countries in Latin America:

a) Countries with "old" industrialization: Argentina, Uruguay, and Chile;

b) Countries with "recent" industrialization: Mexico, Brazil, Venezuela, Colombia, Costa Rica and Peru;

c) Countries with an "incipient" degree of industrialization: Paraguay, Panama, Equador, Nicaragua, Guatemala, Honduras, Bolivia, Salvador, and Haiti.

It is important to point out as well that the degree of evolution and of transformation of the Latin American economies follows a pattern that is essentially distinct from those followed by such central fully-developed countries as the United States and the Western European nations.

This type of differntial pattern of development puts in doubt numerous conceptualizations of an abstract type, that, ignoring the international structural factors, establish stages of development and consequent strategies for "overcoming" the obstacles of passage between one stage and another. The criticism of Cardoso is precise and demolishing.(8) The important point to rescue from the works of Cardoso, Furtado, Stavenhagen and others, is the definitive rejection of the conventional approaches to development and of the assumption that the experiences of the now-rich nations should serve as models for the poor socieities. This criticism is not only valid on the national level, but also it is evident that on the empirical level, the experience of the last 30 or 40 years has shown that the breach between poor and rich countries rather than narrowing has, on the contrary, widened.

A third typology, closely related to the first two represented above, is that proposed by D. Ribeiro,(9) which is based on the ethnic comparison of the population and on its cultural bases. With the aim of examining the formal educational systems in Latin America, the typology of Ribeiro helps to even further concretize the distinctive peculiarities of the different regions of the area, reaffirming the thesis of diversity. The three groups proposed by Ribeiro present differential historical, cultural, and political characteristics and are:

a) the group of the witness people, product of the meeting between the European conquerors and the original, highly developed American civilizations.(10) In this group are included the countries that formed part of the Inca, Maya and Aztec empires (Peru, Bolivia, Equador, Mexico and the majority of the Central American countries), and which in reality still contain a high proportion of indigenous population.

b) the group of the New People, "produced by the meeting of widely varied ethnic strains - chiefly the encounter of indigenous races, Negroes and Europeans"(11) (Chile, Brazil, Venezuela, Colombia, Cuba).

c) the group of the transplanted people, "whose present ethnic configuration is conditioned essentially by the mass immigration of Europeans who took over and subjugated the original gaucho strain formed before the independence".(12) To this group belong principally Argentina and Uruguay.

Ribeiro maintains that the countries belonging to the groups of witness people and the new people, present the characteristics of a rigid social structure, while those of the transplanted people had an ideology of development, brought from Europe, in which the problems of the future were rationalized in terms of industrialization. To this point we coincide with Ribeiro with respect to the role of the elite creole (as was seen in Chapter III), which associated future plans with the ideology of progress and modernization. However, consider cases such as those of Chile and Costa Rica. In the former case, there existed a formal war against the Indian and a later reclusion of these in "reservation" zones. In the second case, an almost total marginalization of the Indian to zones that operated practically as reservations, makes both countries seem to be within the category of transplanted people, since the population is practically all white and of European origin.

The three typologies, although starting from different bases, arrive at a common classification, in which there are inter-mixed economic, social, cultural, and political criteria. This classification allows us to maintain the socio-cultural diversity in our analysis of Latin America at the same time that it allows us to work with more homogenous bases in the diagnosis of the educational problems of the area.

There obviously exists an intercorrelation between geo-economic structure, levels of industrialization, and ethic-cultural characteristics of the population. It is not that we are dealing with a dominion of the white race or of the European groups to manipulate situations. We are dealing rather with the sociocultural fact of the rapid assimilation of the ideology of modernization; the relative scarcity of conflicts in the more privileged areas towards which this European immigration directed itself; the economic fact of the placement of the European immigration in the zones of temporate agriculture where the products of exportation were integrated to the world market and left a margin of profit; the early industrialization resulting from the combination of high salaries and high consumption levels and the access to power of the middle classes.

This special configuration of situations serves to explain in a clearer way, the differential rates of yield of the educational system among the different countries of Latin America.

In the chapters in which we examine the situation of illiteracy in various countries as well as the efficiency of the distinct levels of the formal educational system, this categorization of countries seems to be closely correlated with the efficiency of the educational system in incorporating the population as well as in retaining the population incorporated.

B. INTERNAL AND EXTERNAL PRESSURES TO INCREASE EDUCATIONAL LEVELS.

These pressures are of two types:

i) those of an ideological nature
ii) those of a structural nature

The pressures of an ideological nature, can be divided into two kinds:

1. The results of the ideology shared by the groups in power, and

2. The results of external presures.

1. The pressures resulting from the ideologies of the groups in power, as we have already partly examined in the previous chapter, appear very early and are tied to the "filos-oficios" and political movements originating in Western Europe and in the United States. From this perspective it can be said that the entrance of Latin American into the context of Western ideology and civilization is completed with the appearance of national emancipation, as a project independent from the metropolises of Spain and Portugal. If Latin America came to depend on the socio-cultural world of 15th century Europe with the arrival of the conquerors, the wars of Independence then made it dependent on a cultural horizon belonging to the socio-cultural world of the Western civilization of the 19th century.

There is a whole change of perspectives in the future plans of the new elites in power. But this change of perspective is the result of an incorporation (we would say almost due to the "demonstration effect") - without mediation - of ideologies that had meaning for the countries where they originated but lacked a transformation that adjusted them to the peculiar characteristics of the Latin American area.

In spite of the relative failure in fulfilling the expectations that the new political-social organization created in the different Latin American countries, it is important to point out that these historical-cultural facts are important elements for understanding the fundamental differences among the distinct regions of the third world, specifically, the differential characteristics between Latin America and the countries of Asia and Africa.

At any rate, as was indicated above, education came to play a part, from a very early stage in all the Latin American countries, in a plan of national integration and modernization of the society. This plan was partially accomplished in some countries of the area (principally in those with more favourable structural characteristics). The plan always had the characteristics of a divorce between the socio-cultural realities and the cultural goal. Finally, it would go on structuring itself not so much as a function of the ideology manifested in the system, but rather of the latent content and of the reality of the infrastructural systems.

The pressures resulting from external influences, appear, above all, from the end of the Second World War, with the creation of international agencies such as the United Nations and its specialized agencies, the Organization of American States, the internationalization of knowledge through international professional associations, et cetera.

These agencies, through the publication of comparative statistics and the influence of agents like UNESCO, UNICEF; and the U.N.D.P., act as mechanisms of pressure upon publishing (and thus denouncing) situations of "stagnation" and "poor functioning". As in the external pressures, here is also a mechanism of "importation" of models and of experiences which have not in all cases taken into account the local peculiarities. A typical case is, for example, the pressures for the adoption of models of development which we mentioned in the first section of this chapter. A somewhat more complex case is that of the preparation of graduate students in foreign universities, that "import" to their socio-cultrual systems, models and experiences learned in the metropolis.

The pressures of a structural nature, are varied and have to do with the dynamic of the social structures. In the end it is these presures that appear to be effectively modulating the patterns of development of the educational systems; and which in the end point out the real limits in the implementation of the goals fixed by the ideology of the elites in power. For now, we will point out some of these pressures.

a) First are the changes manifested in the structure of the production system, particularly in the employment structure. Later on we will analyse the peculiar characteristics and the influence that the employment structure exercises over the two extremes of the formal education system - the incorporation of the school-age population (that is, in the determination of the illiteracy rates); and in the "brain drain", that is, in the emigration of university graduates. It is enough to point out for now that the rates of illiteracy are closely correlated with employment in the primary sector of the economy, positively, and negatively with employment in the secondary and tertiary sectors.

b) Next we mention the changes manifested in the ecological distribution of the population. The systematic growth of the urban sectors in the majority of the countries of the area is one of the structural characteristics that are more strongly influencing the rates of schooling.

Latin America as a region has passed in the last decade from predominantly rural to predominantly urban. From the point of view of the implementation of school infrastructure, and even from the perspective of the educational aspirations of the population, the growing urbanization of the young population into the school. However, as will be seen in following paragraphs, there exist numerous problems regarding the pressure on the enrollment in the secondary and higher levels, which conflict with the distribution of resources for the primary level.

c) A third aspect, tied to the demographic characteristics, and that exercises pressure on the system, is the high rate of demographic growth of the population and its repercussion on the age composition of the population. The population of the majority of the Latin American countries (see Table 4, Chapter II), is predominantly young, representing important economic problems in the relations between the supply and demand of the educational system.

d) Pressures arise from the changes in the social stratification system. The combination of changes in the employment structure and accelerated urbanization, together with the scarcity of economic resources, has important effects on the structure of the enrollment. The first effect is the distortion of the educational system by differential capacity for pressure on the part of the various socio-economic strata. Here it is clearly noted (particularly in the case of Mexico) that the educational supply is conditioned to the capacity of pressure that each strata of the population can place on the decision-makers in power. Thus, the ascending middle classes and the upper classes, with great capacity of apply pressure, obtain facilities in a more immediate way than do the working class sectors and the farmers. The accelerating growth of enrollment in the middle and higher levels is made almost at the cost of the growth of primary enrollment.

In Summary:

From the point of view of the ideology of the system, the pressures for modernization and rationalisation of the educational apparatus and structures are of an internal as well as external nature.

All the ideology of the system seems to be dominated by the exterior influences, either through the direct importation of ideology or through the importation of models. From this perspective, it can be said that the ideology of the educational system or at least the rationality of it, is not only "modern" but is incorporated to the plans, programmes and legislation of all of the countries of the area, ever since the formation of distinct national states. In spite of this, the erradication of illiteracy, the retention of the population incorporated into the school system until it fulfils the legal minimum and the capacity to generate innovating agents - have not been accomplished.

The factors which make the dynamic of the formal educational systems, seem to be associated more with the real characteristics of the distribution of power, with the ecological arrangements of the population, with the characteristics of the modes of production and with the forms of employment distribution, than with the ideology of those in power.

In the following chapters we will analyse the dynamic of the educational systems in Latin America, first through an analysis of illiteracy, then pointing out the problems of functioning of the primary, secondary, and higher levels. We will end with an analysis of the "brain drain" as a structural problem of dependence on the international political and economical systems.

C. THE STRUCTURE OF EDUCATIONAL SYSTEM

The formal education system in Latin America follows a pattern of organization by cycles or levels similar to the European system, although in the last few years the system has tended to be structured in a way more like the North American system, due to the increasingly more frequent inclusion of the pre-school level and the post-graduate level. The five cycles of the school system are:

1. Pre-school: The age groups corresponding to this cycle are 3 to 5 or 6 year-olds. Attendance is not obligatory and in fact this level serves almost exclusively the middle and upper urban classes. The service is offered by private and public institutions.

2. Primary is made up of a 6 to 8 year cycle. It is obligatory by law in all the countries of the area for the population between 6 (or 7) and 14 (or 15) years. The service is free although there exist in various countries a considerable number of paid private schools. The period of obligation varies from country to country and from urban to rural regions.

3. Secondary has a duration of 4 to 6 years. It is in general composed of three branches, some of them including terminal studies, such as the professionals and assistants, with a duration of some 4 years.

   a) Secondary, or Baccalaureate includes 5 to 6 years. The studies tend to give a general formation which usually leads to entrance into the universities. Complete primary school is required for admission.

b) Vocational or Technical includes specialities such as industrial, commercial, agricultural and fishing, offering a training that leads to employment in the specialization activities in the primary, secondary, and tertiary sectors of the economy.

c) Normal indluces studies destined to the formation of primary school teachers.

4. Higher includes universities and superior technological institutes. Admission requires completion of the secondary cycle and in some countries there still exist problems with respect to admission to the universities of graduates from vocational schools; these in general have access to the superior technological institutes. The service is provided by private as well as public institutions. The duration is between 4 and 6 years.

5. Post-Graduate has appeared very recently as formal institutions. It includes programmes of masters and doctorates, admission requiring certificates of higher studies. The duration varies between 2 and 3 years.

The state offers in Latin America education which is generally free or with a symbolic payment, on all levels of the system.

D- EDUCATIONAL DEMAND

Educational demand is understood as the age groups corresponding to each cycle or level of teaching. In terms of legislation the ages corresponding to the primary level are the only ones that by law should be incorporated into the system. The groups of ages corresponding to each level are, approximately:

Cycle	Ages in years
Pre- Primary	3 to 5
Primary	6 to 14
Secondary	15 to 19
Higher	20 to 24
Post-graduate	25 and older

The potential and actual demand for formal education in Latin America is strongly influenced by a series of structural, cultural, and psychosocial factors, amongst which are the following:

a) The high rate of demographic growth (in fact the highest in the world), which determines the proportion of young people in the population pyramid.

b) The rapid growth of the urban sectors (also among the highest in the world - see Chapter II).

c) The accelerated changes in the composition of the labour force, with a diminishing of the labour force in the primary sector and an increase in the secondary and tertiary sectors.

d) As a consequence of these factors, a demand for minimum schooling for entrance into the labour market.

E- EDUCATIONAL SUPPLY

Educational supply means the physical existence of a school establishment, in its different cycles as well as different grades in each one of the cycles. The supply in Latin America is strongly associated with demographic, ecological, social and economic aspects. For example, the typical educational supply in the rural sectors in Latin America, tends to express the following characteristics:

- a Pre-primary cycle or level does not exist
- when a primary school exists, the supply is up to certain grades. The typical supply is two to three years, out of a possible 6 or 7
- secondary schooling does not exist.
- higher education does not exist.

In Mexico, for example, for 1970, fifty-six per cent of the primary schools were considered to be rural. Of these, only twenty per cent offered the complete cycle.

Repeaters: These are the individuals that are enrolled in a school grade in which they had previously been enrolled. To this category belong:

a) the failures that go back to repeat the same grade;

b) the drop-outs that go back to enroll the next year or at some other time;

c) those that although have passed the grade enroll in it again either because the next higher grade doesn't exist in the school or area, or for some other reason.

Desertors: are the students that, once enrolled in the system, abandon it during the period of classes.

Graduates: students that satisfactorily fulfill a cycle or level of teaching.

FOOTNOTES

1. Furtado, C.Y., *La economia latinoamericana desde la conquista iberica hasta la revolucion cubana; Editorial Universitaria, Santiago, Chile, 1973. (page 46)*

2. Furtado, C., *ibid*. pages 49-50.

3. The generation of 80, in reality is formed by the same people as the generation of 37. However, the Battle of Caseros represents the triumph of the centralist theses in Argentina, and the final overthrow of the *caudillos*. The governments of Sarmiento, Avellaneda, and Roca principally not only achieves national integration, but also opened the whole south of Buenos Aires to the possibilities of agricultural-cattle exploitation.

4. The failure of the programmes of distribution of land to the immigrants facilitated at the same time a quite rapid urbanization, concentrated especially in the zone of Buenos Aires. This affected not only the growth of the manufacturing industry but also the dynamic of the socio-political processes and in the long run the structure of the educational systems.

5. C. Furtado, *op. cit*., page 101.

6. C. Furtado, *op. cit*., page 106.

7. Cardoso, Fernando H: *Cuestiones de Sociologia del Desarrolle an America Latina*; Editiorial Universitaria; Santiago, Chile, 1968.

8. See especially: F.H. Cardoso: *Cuestiones de Sociologia ... op. cit*. "Industrializzaziones, dipenenza e potere in America Latina"; Annali della Fondazione Luigi Einaudi; Torino, Vol. 4 1970; "The entrepreneurial elites in Latin America", *Studies in* Comparative International Development; Vol. VII, No. *10, 1966*; "Imperialism Dependency in Latin America"; mimeo, Sao Paulo, 1967; *Dependencia y desarrollo en America Latina*, ILPES, Santiago de Chile, 1967 (with E. Faletto): *Industrializacion, Estructura Ocupacional y estratificacion social en America Latina*; ILPES, Santiago de Chile, 1966. (with J.L. Reyna).

9. Ribeiro, D., "University and Social Development" in Lipset, S.M. 2nd Solari, *A: Elites in Latin America*; Oxford University Press, New York, 1967.

10. Ribeiro, D; ibid.

11. Ribeiro, D; ibid.

12. Ribeiro, D; ibid.

CHAPTER V

THE EVOLUTION OF SCHOOL ENROLLMENT IN LATIN AMERICA

The formal structure of the educational systems includes distinct levels, traditionally the following three: primary (or elementary), middle (or secondary) and higher (or university). To these three levels it is possible to add another two: pre-primary on the lower extreme and post-graduate on the upper extreme.

In this section of the thesis we will occupy ourselves principally with the three traditional levels (at least with respect to quantitative aspects); by "evolution of enrollment" we mean the changes produced in the coverage of the formal educational system in each of the cycles or levels over time.

The analysis will be comparative on two levels:

a) in relation to the evolution of enrollment in Latin America vis a vis the evolution experienced in the new developed countries; and

b) in relation to the implications that differential growth has, in each of the levels of the educational system, for the relations between classes and social groups in Latin America.

To occupy ourselves with an analysis of the type that we attempt to present is important for at least two reasons. First, it allows us to analyse the possible covariations between the educational coverage and the styles of socio-economic development in the now-developed societies and in the dependent capitalist-type economies of Latin America. Secondly, it allows us from these covariations to develop a series of hypothesis about the relationships between the processes of structural change and the role that educational systems have in the determination of the systems of social stratification

A- EVOLUTION OF ENROLLMENT

The evolution of enrollment of the various levels of the educational system depends on a series of factors including the internal structure of the educational system as well as the educational policies (an consequently the ideology and the style of development from which the dominant policies are derived), and the macrostructural factors on the level of the overall society.

The factors related to the structure of the formal system are in general clear and precise; the completion of the lower level is the requisite for entering the next higher level. That is, in order to enter the secondary level it is necessary to complete the primary level; in order to enter the post-secondary level, it is necessary to complete secondary school.

The priorities of educational policy in Latin America are less clear. There is a series of factors, some of which were already analysed in other sections of the thesis.(1) One important factor in the determination, not of the formulation of policies but of their effective implementation, is tied to the system and the dominant means of production in the regions where the educational policies are to be carried out. Further on, the differential effects will be examined in detail. For now, we wish to point out that the implementation of educational policies and the determination of priorities are, in Latin America, conditioned by the relations between social classes and the power of pressure that these have over the State.

The formalization of priorities in terms of enrollment by educational level appear in the form of rules, decrees and laws that are only precise in the case of primary education, and for the 6- to 14-year old population. That is, an enrollment of 100 per cent of the school-age population is the number established as an ideal by law. With regard to the secondary and higher levels there exist neither rules nor estimations nor universally-accepted rationalizations. There are attempts, particularly from the rationalizations of what we call the "economistic" orientation, to establish relationships of supply and demand with respect to professional or semi-professional groups. However, the most common method for justifying schooling rates on the secondary and higher levels is to take in general as desirable numbers those of the more advanced countries.

A strict calculation that takes into account the logic of the system and what little exists regarding educational policy would conclude that the rates of growth should be ordered in such a way that first a full satisfaction of the demand on the primary level is achieved, and then the minimum education should be extended to the entire secondary level. For these two levels it is possible to think, with certain foundations, of 100 per cent as a level of saturation. On the higher level, a number does not occur to us that would be rational, except that such a number would have to be related to the demands of the occupational market.

But the determining factors of growth of enrollment are not obeying the logic of the educational system, nor the educational policies announced by the authorities. The dominant and determining factors that regulate the growth are of a structural nature, in which are operating, apparently out of control, the economic systems, the ecological distribution of the population, and the systems of social stratification. One of the principal hypotheses of this section is that the mechanisms through which the pressures and demands that regulate the educational supply operate, follow the rules of "supply and demand" of the capitalist system, and that these rules depend in turn on the functionality of the social structure for the project of dependent capitalist development.

In Section A of Chapter IV, we pointed out that the expression of dependent capitalism in Latin America occured in different forms according to the articulation between the international market and the type of primary products that each country exported. In some cases, the stages of the expansion "toward the outside" took place under quite favourable conditions, giving place to a greater differentiation of the production structures and to an early urbanization. In other countries, industrialization took place a lot more slowly, thus the process of differentiation of the production structures is not very pronounced. In any case, the results of a marked decrease in the participation in international markets, for all of Latin America, meant that the efforts towards economic growth were oriented towards an expansion of internal markets.

We also noted that the evolution of the patterns of development in Latin America (particularly in the relation between production structures and redistribution of the labour force according to sector of the economy) would have been very differnt from the patterns of development in the now-developed countries changed according to a model in which, from a concentration of employment in the primary sector, there came an important growth in the secondary sector, and then a concentration of employment in the tertiary sector. In the case of Latin America, the change was from a concentration in the primary sector followed by an acceleration of tertiarization, without the growth of the secondary sector occuring in any significant way. The mechanisms that seemed to explain the differential patterns of growth lay principally in the distinct moment of insertion of capitalist-type economies into the world economic system. In the case of the developed countries this occurred during the formation of the market and the international division of labour based on a world market. In the case of the dependent countries, it occurred within a market already structured on the basis of hegemonic centres with which the various countries came to have relationships of dependence.

The consequences that we are interested in noting of this differential system of capitalist growth represent in turn distinct forms of articulation between economic development and social development. All process of development is a process of change, and as such the group interests enter into a situation of conflict, the resolution of which will define the real quantitative and qualitative transformations. In these situations, the role that education will play in the structural transformations of the societies will depend then on the processes of change and on the functionality or disfunctionality of the educational system for the distinct spheres that act as determinants and conditioners in the dynamic of relations between groups, institutions, social subsystems and global structures.

Aldo Solari(2) made one of the first studies about the relationships between the enrollment structure in developed countries and in Latin American countries. By means of the use of comparable periods, basically in terms of per capita income by country, he found that the patterns of evolution of the enrollment in the Latin American countries, in the following ways:

1. The universalization of primary education which took place in the developed countries was completed around 1900, with a rhythm different from that going on in the under-developed countries. In Latin America, only Uruguay, Argentina, Cuba, Costa Rica and Chile reached a similar situation around 1970. The rest of the Latin American countries have not yet reached the literacy situation achieved by the

now-developed countries as early as 1900.(3)

2. In the developed countries, the growth in secondary school enrollment was slow during the period of paid expansion in primary enrollment. Around 1900 there were 20 students enrolled in primary school in the United States for every student enrolled in secondary school. In France and England this number rose to around 35. On the contrary, in Latin America, secondary school enrollment has also increased rapidly. Table 14 shows the distribution of the total enrollment between primary, secondary, and higher education in 1960 and 1968. It can be observed that in the worst of cases (Honduras) there were 13 students in primary school for every student in secondary school, and in the best of cases (Uruguay) this relationship was almost 1 to 2.(4)

3. In the now-developed countries around 1900, university enrollment, although small, was more than one-fifth of secondary enrollment. Solari concludes that university enrollment is smaller in Latin America for comparable income-per-capita periods than it was in the developed countries (with the exception of Argentina, Uruguay, and Peru). However, if the schooling rates for the 20 to 24-year old age group are taken into account, for recent years, it can be seen that the situation in 1970 in Latin America is better than the situation of the United States in 1900 (except for Haiti and Honduras). Even using the 1930 U.S.A. schooling rates as a basis for comparison, we find that Argentina, Costa Rica, Chile, Peru, Uruguay, and Venezula had similar rates of university schooling.(5)

TABLE 14: DISTRIBUTION OF ENROLLMENT OF THE SCHOOL-AGE POPULATION, BY EDUCATIONAL LEVEL. VARIOUS LATIN AMERICAN COUNTRIES. 1960 AND 1968. (IN PERCENTS)

COUNTRY		PRIMARY	SECONDARY	HIGHER
Argentina	1960	79.2	15.6	5.2
	1968	73.8	20.2	6.0
Uruguay	1960	73.5	22.8	3.7
	1968	67.3	29.3	3.4
Costa Rica	1960	85.9	12.1	2.0
	1968	80.7	17.2	2.9
Chile	1960	82.2	16.0	1.8
	1968	86.8	10.3	2.9
Panama	1960	79.0	19.0	2.0
	1968	74.4	22.3	3.3
Cuba	1960	87.9	10.4	1.7
	1968	82.0	16.1	1.9
Paraguay	1960	91.5	7.4	1.1
	1968	88.0	10.4	1.6
Colombia	1960	86.4	12.4	1.2
	1968	80.7	17.4	1.9
Equador	1960	88.6	10.0	1.4
	1968	84.0	14.2	1.8
Venezuela	1960	85.5	12.6	1.9
	1968	77.5	19.6	3.4
Mexico	1960	89.2	9.4	1.4
	1968	84.3	13.9	1.8
Dominican Republic	1960	89.9	9.5	0.6
	1968	83.0	15.1	1.9
Brazil	1960	85.5	13.4	1.1
	1968	77.4	10.8	1.8
Peru	1960	85.6	12.5	1.9
	1968	77.0	19.7	3.3
Nicaragua	1960	91.9	7.2	0.9
	1968	84.3	13.6	2.1
El Salvador	1960	89.8	9.5	0.7
	1968	84.7	14.0	1.3
Honduras	1960	92.4	6.9	0.7
	1968	90.8	8.4	0.8

Source: Department of Social Affairs, Organization of American States: Basic Population Data for Latin America, Washington, D.C., 1969.

In Table 15 it can be seen that the rate of university schooling in Latin America is higher in several countries than in four European countries for which we have data. That is, the phenomenon of "tertiarization", we maintain, is even more acute than that suggested by Solari. University enrollment in Latin America tends to be substantially higher than that of the now-developed countries when they had equivalent per-capita incomes.(6)

In the analysis of the causes of the differences between countries, Solari points out a series of plausible hypotheses in which he considers the effects of the economic system, the influence of pressure groups, and the system of social stratification.

From the point of view of the demands of the economic system on the educational system in the developed countries, Solari maintains that:

> "...everything seems to indicate that the productive structures of the developed countries demanded that, firstly a great majority and then, the totality of the labour force had a certain level of primary schooling, so that only a very small proportion of young people with higher qualifications would be required...as the diversification of the productive apparatus and the creation of new occupational roles demanding more educational qualifications took place, enrollment in secondary and higher education increased correspondingly..."(7)

In the case of Latin America, the relationships between the economic and the educational systems are different:

> "...on the basis of an economic structure that can be considered relatively simple productionwise, there is superimposed, partly due to

TABLE 15: RATES OF UNIVERSITY SCHOOLING FOR VARIOUS COUNTRIES AND YEARS. (20 - 24 YEAR OLDS)

COUNTRY	YEAR	RATE OF UNIVERSITY SCHOOLING (20-24 yrs.)
U.S.A.	1890	2.2
U.S.A.	1900	3.2
U.S.A.	1910	3.8
U.S.A.	1920	6.6
U.S.A.	1930	10.6
U.S.A.	1940	14.0
France	1958	3.8
USSR	1958	8.2
Italy	1957	3.9
England	1957	3.9
Argentina	1970	13.8
Peru	1970	10.6
Costa Rica	1970	10.4
Venezuela	1970	10.0
Chile	1970	9.9
Uruguay	1970	9.7

Sources: For the United States: Department of Commerce Bureau of Census: "Historical Statistics of the United States, Colonial Times to 1957", in Solari, A., *op. cit*.
For Europe: OCDE: El desarrollo economico y las inversiones en educacion:,1961, in CONADA: *Educacion, recursos humanos y desarrollo economico-social*; Vol. I, Series C, Buenos Aires, 1968.
For Latin America, UNESCO, *Evalucion reciente de la educacion en America Latina*, Vol. III, IV, V, VI, VII, SepSententas, Mexico, 1974.

> dependence, a complex structure of occupational roles that require high educational qualifications..."(8)

That is, at the same time that there exist low literacy rates and low rates of primary schooling in zones of non-differentiated economy, in urban zones there exist very high levels of secondary and higher schooling.

All this seems to indicate, in Solari's reasoning, that the evolution of enrollment in developed countries is more harmonic, more functional for the requirements of the production system. In Latin America, the harmony is of a different nature, since although there is a relation of causal influence going from the economic systems to the educational systems, the relationship appears as dynamic only in one sector of society, while in the sector of undifferentiated economies, it is of a static nature.

Concerning the ties between the educational system and the demands of a productive apparatus that creates new occupational roles demanding more educational qualifications, the acceptance of functional relationships between both systems appears to be somewhat hurried. Firstly, there are not sufficient elements of proof - as even Solari himself recognises - from which it can be affirmed that the acceleration of the growth in schooling rates on the secondary and higher levels are a consequence of the growing demand for qualified employees. Here, the influence of certain factors are not being taken into account, such as the high income levels associated with positions to which high educational levels lead, and the symbols of power and prestige associated with these positions. Another fact that is not taken into account is that the different educational levels do not grow in a constant way for all of the population, but rather they grow differentially according to social class. Here is where Solari does not analyse the consequences of the stratification and class systems for the educational system.

In effect, the influence of the pressure groups on the educational system are analysed in a quick way and seen as directly subordinated to the economic system. Solari contends that "the situation seems to closely correspond to what is derived from the demands of the economic system..."

Although Solari mentions the special characteristics of the production structure in urban zones, the relations between the educational system and the systems of social stratification are dealt with in conventional manner. On the one hand the problems related to social mobility and maintaining status are examined in terms of the growth of the 'educative threshold' in number of years(9) and the effects of this on the 'devaluation' of primary and secondary schooling in urban zones. On the other hand, the problem of rapid passage from the 'university of the elites' to the 'university of the masses' is analysed critically, the low level of the majority of institutions of higher education in Latin America standing out.

We are not in disagreement with the principal conclusions reached by Solari. It seems in effect that the changes in the patterns of composition of enrollment by levels or cycles of the educational system have taken place in a quite different way in Latin America than in the now-developed countries. This distinction lies mainly in the very accelerated growth of the secondary and higher levels, in situations where very high rates of illiteracy and very low rates of primary schooling exist. We are also in agreement that the instrumental value that education has had in the developed countries - in relation to the production system - has been much more elevated in the developed countries than in Latin America. Where we do not coincide with Solari is in the interpretation given to the phenomenon, in the place given to the system of relations between social classes vis a vis the educational system.

German Rama(10) analyses the relationships between the processes of structural change and the educational systems in a more dynamic way. Differential access to the system according to social class, is framed within the processes of the dynamics of relations between social classes. The processes of economic development and the processes of social development are not separated, but rather the articulations between both processes are analysed in the perspective of the global structure of the society.

Firstly: the patterns of growth of the educational systems in Europe are not the result of the simple effect of an autonomous dynamic of the economic systems. There exists a correspondence between a social structure functional to capitalist development, the political system, the action of particular social groups, and the ideology of these groups.

The details of these relationships have been examined by classic authors of social science literature: Weber, Marx, and Schumpeter - to mention a few.

Education enters into this general model of a society where, before the Industrial Revolution there existed the political aspects of national integration and consolidation posterior to the feudal era, where, notes Rama:

> "During the period of national consolidation, from the absolute monarchs to the liberal revolutions, the plan of integrating society under the ferule of the State had the objective of overcoming the political, cultural, and linguistic heterogeneity; in some cases, it would originate in the autonomous evolutions of the regions during the feudal era, by means of a vast provess of communications and creation of new loyalties in which education played a fundamental role...(11)

That is to say, it is not that education automatically becomes functional to the economic plan, but that previously there existed the political-ideological objectives that "fit" perfectly in the explanation of the general dynamics of alphabetization in the Europe of the 19th century. And the same thing will be repeated in Latin America. We have already analysed, in the chapter "Historical Basis for the Explanation of the Development of Education in Latin America" how in the second third of the 19th century in those countries where national organisation was consolidated, education was rationalized more from the political perspective than from the economic perspective, or, the economic results were the consequence of the realization of a political future plan in which the formation of the citizen was the key to progress.

Thus minimum but universal literacy forms part of what Rama calls "educational style" resulting from the phenomena of integration and socialization, and fundamental for the style of development of the industrial revolution. It is noteworthy that in this style, the participation in the educational system or in the political-economic system is always limited and conditioned by the rigid separations between social classes in the Europe of that era. Thus, access to the secondary and higher levels of the school system was limited to the social classes that had the power and to the groups oriented towards the tasks of administration.

Secondly: The differential growth of enrollment in Latin America developed in a historical-social context different from that produced in the historical stages of growth of the capitalist societies which are now developed nations. The economic aspects of the growth are analysed in another section, as are the peculiarities and specifities of the groups of countries within the region. From the taxonomic point of view, G. Rama undertakes an excellent classification of the educational styles in Latin America, specifying the relevant aspects in the economy, or the society, and in politics.

Each educational style depends on the style of development adopted by the society; the adoption of the style is not of course an adoption of a homogeneous type, but rather the style itself reflects the societal image of the groups in power. Although the economic situtations of the various countries have the common denominator of dependence, this occurs in different ways.(12) Furthermore, the social stratification in the various Latin American societies also does not occur homogeneously. We have already seen how the ethnic variable plays an important role in the sociocultural separations of those Latin American nations having an important indigenous population. Social equality and inequality then model both the educational styles and the economic and political styles.

Differential access to formal education creates a series of contradictions that have their expression in the "paradox" observed by Aldo Solari: in Latin America access to the secondary and higher levels of the system is not as strongly correlated to property and income as it was in Europe and in the United States in their first stages of economic growth.

In Latin America in effect it would appear that the educational system would have a character of greater accessability to the highest levels, giving the illusion of a greater democratization of the system. However, the situation prevailing in the region reflects the existence of little-differentiated social structures, with a predominance of employment in the agricultural sector and with political control in the hands of oligarchic sectors, where the compartmentalization between rural and urban population allows us to speak of the existence of dual societies. In some the illiteracy and minimum schooling are a common denominator, in others, access to a complete educational system, with

STYLE	RELEVANT EDUCATIONAL FUNCTION	ECONOMIC DIMENSION	POLITICAL DIMENSION	SOCIAL DIMENSION
Traditional	Conservation: socialisation for the maintenance of the status quo according to the values of the dominant class.	Stagnation and agricultural economic base	Oligarchy: Political control not subject to "challenging" (contestacion) by the masses.	Dominant class with non-differentiation of other social classes. Poverty and marginalisation.
Social Modernisation	Mobilisation: integration of masses and formation in values of participation in educational system relatively open to demands of groups in process of incorporation.	Moderate growth with distribution. Importance of internal market.	Unstable relationship and/or alliance of classes integrated to the system. Manipulation of the mobilisation	Towards a capitalist class structure. Internal differentiation of the bourgeousie. Ascent of middle classes and proletariat. Society of masses and marginality.
Cultural Participation	Culture: provision of a "code" that legitimises a status and the entrance to a sector with equalitarian internal relations.	Abundance and generation of surplus, in a specific sector of the economy, distributed by the State.	Elitist pluralism. Autonomisation of "political bureaucracy".	Indefinition of social classes and distension of relations due to widening of occupations and incomes.
Technocratic and/or formation of Human Resources	Economy: education limited to the functional and stratified preparation of human resources in some cases ideologically depoliticised.	Accelerated growth with concentration, "internalisation" of internal market and exportation of industrial goods.	Control by the upper class or political-military technostructure with participation of national bourgeousie.	Polarised class structure. Segmentary and gradual incoporation of social groups according to widening of market.
Political "Freezing"	Politics: reimposition of the authority and values of the dominant class, popular mobilisation; includes educational compartmentalisation according to stratification and reducation of intellectual dialogue.	Crisis due to wearing-out of the model or to projection of class conflicts.	Some sectors of the upper class with support of middle sectors and military presence.	Restructuration of class relations. Reduction of income levels and participation of middle classes and proletariat.

quite open possibilities for access to the middle and upper levels of the system.

Thirdly: The dynamics of the relationships between social groups within the relatively more modern sectors of the social structure (sectors in process of significant growth due to increases in urbanization and to changes in the employment structure), which give place to what Cardoso and Faletto call 'urban mass societies, based on insufficiently industrialized economies',(13) facilitate the emergence of a special type of society in which the phenomena of social mobilization maintain the characteristics of the social stratification in capitalist societies. That is, social mobility is in fact the appearance of social mobility, since through the educational system, the conditions are created by which, as Rama says:

> "The form of transforming the pressures for structural change and maintaining the relations of social classes consists of assimilating them, modifying the social mobility in expectation of upper mobility through education, defining for the new social groups limited rules under which participation can be produced."(14)

That is, the expansion and diffusion of education to increasingly broader sectors of the population would produce the effect already pointed out by Solari of the devaluation of education, since the more favoured classes are displaced either to higher educational levels or to more prestigious educational institutions.

The broadening of the educational supply in urban sectors serves as and is utilized as a kind of "escape valve" for the pressures of the more mobilized groups, with greater consciousness of belonging to a social class, greater capacity for consumer demand on social, political and material levels.

If it is then correct that in fact a boardening of the educational supply is produced, along with a greater access to the middle and upper levels of the system and an expansion of educational expenditures to include in the majority of the countries more than one-fourth of public expenditures, at the same time there is produced on the national level a greater polarization between illiterate or almost illiterate groups and groups with high educational qualifications.

There exists a greater concentration of expenditures on the secondary and higher levels and a continuity of differential access to the different types of education according to the social origin of the students. And in the last of cases, the "brain drain" exists as one more mechanism of structural dependence on the metropolis.

B- FORMAL EDUCATIONAL SYSTEMS, STRATIFICATION, AND SOCIAL CLASSES

One of the functions that the formal education system should supposedly fulfill is that of operating as an agency of social equalization. According to the ideology of the system, the school would be the social institution through which society "corrects" the existence of irregularities in the status of its members, guaranteeing that these be rewarded not for their ascribed status but for their real achievement in the system (acquired status), following the principles of the "meritocracy". By means of the achievement of this goal, a triple aim will be reached: first, that of breaking with the structure of privileges not based on individual merit; second, the democratic, open, and meritocratic educational system would result in a substantial increase in the pool of candidates for more important social roles; third, it would assure that the more capable elements of the society would be in fact those that rise to the most important roles.

This meritocratic and equalitarian conception of the society and the school is ideological, because the effective way of distributing status and roles in the capitalist societies does not correspond to this romantic vision of institutions. The relationship between the modes of production and their articulation with the social and political structure make social inequality a structural component of the global social system. We are not trying here to discuss the existence of more 'open' or more 'closed' societies(15) nor to enter into the Davis-Moore versus Tumin discussion.(16) Evidently the capitalist mode of production represents a significant advance in terms of opening of the systems of social stratification, at least in relation to the pre-capitalist modes of production, as Marx himself noted.(19) We simply wish to point out that the relation between social equality and meritocracy does not operate effectively in the school because the relation does not operate on the level of the global society, that is, in a social environment where the meritocracy does not lead to a reducation in inequalities, nor to changes in the structure of domination, nor even less to a lowering of the tensions between social classes. To think of a democratic school in an undemocratic environment is not only idealistic but ideological.

The difference between the Latin American societies (of a dependent capitalistic type) and the developed capitalistic societies is a difference of shades and of patterns of development within a group of social systems structured in a relatively similar way. In neither of the two types of society does the school operate as an agent of social equalization. In the developed countries, the relationships between social classes do not alter significantly as an effect of increasing the average schooling of the population; the educational 'thresholds' by which social classes and strata are separated are displaced. In the case of the Latin American societies, the empirical evidence suggests that the operation of the educational system is leading precisely to the opposite of what is assumed by the ideology of the system, that is, the increase in the rates of schooling as it is occuring, leads to a increase in the distances that separate some social groups, especially the extreme groups.

Thus the educational system is not closing the gap that separates the different social groups but rather this gap - from the point of view of schooling levels - is widening through a series of mechanisms, the principal one of which we will now discuss.

From the abstract point of view, the formal educational system presents a structure that includes various levels, of a distinct temporal extension, and which in its complete form is more or less the following:

Approximate duration:	2-3 years	4-7 years	5-7 years	4-7 years	2-5 years
Cycle or Level:	Pre-primary	Primary	Secondary	Higher	Post-grad. Masters Doctorate

To this formal structure important elements of internal differentiation within each country and between countries must be added. Thus for example, the extension of the primary cycle (elementary and obligatory) can vary between 3 and 7 or more years. In Brazil, primary education has an extension of 4 years while in Argentina it lasts for 7 years, and Mexico is planning to extend it to nine years. In internal terms, a very generalized case in Latin America is the differential existence of primary education according to urban or rural areas; in the case of urban areas, the supply is complete, while in rural sectors it is limited to the first 2 or 3 years of the cycle. In a great majority of the countries, there exist immense rural areas in which no primary schools exist.

In the secondary cycle of the system somewhat more sophisticated mechanisms begin to operate in addition to the mechanisms of differential supply, which contribute if not to the increase then to the permanence of the social inequalities, this being determined both by ecological factors and by the structure of the class system. In ecological terms, the educational sypply for the secondary level is reduced to the urban sectors in the great majority of cases. In terms of mechanisms of the social differentiation, the most common of these is the separation between two types of secondary school, one of the humanistic type and the other of the technical-professional type.

Complementing this differentiation, there exist within the technical-professional schools, two types of structures: those that offer short-term terminal studies and those that offer longer non-terminal studies whose diplomas offer the possibility of continuing studies in the higher cycle. This situation, which will be studied in greater detail later on, forms a part of this systems of selection and socialization of elites and of reinforcement of the class structure.

The discrimination system begins with decompartmentalization between urban and rural populations. For the rural population there is little or no opportunity for education. Even for the urban population, opportunitites for access to humanistic studies are reduced to a few. Those few persons will be the ones that, through this humanistic education, which has little value as human capital in the economic sense, will have access first to the upper levels of the educational system and then to political power. When the system expands sufficiently (due to increases in the rates of urbanization and the growing pressures of the middle, ascending groups) the pressures are displaced to the higher level of the system and to the qualitative aspects within it.

The structuration of the higher cycle of the educational system repeats almost the same type of pattern. There exist different types of universities, those with a qualifying adjective (technological, for example) and those without. Within both types, short-term (semi-professional) and long-term (professional) careers exist.

Contributing to these tree-like structures, which have important implications for social stratification, are found aspects associated with the quality of the education offered both within the various types of courses in a cycle, and in different private or state institutions, and with the distribution of resources, both among the levels of the system and between different careers or institutions on the national level.

This structuration of the formal educational system which is functional, or at least is used as such by the system for perpetuating the differences between social classes, produces two types of situations on the global social level which can be synthesized in two propositions:

I. On the level of differential access to the various cycles of the system, the most common situation in Latin America seems to be the following:

i. Between 20 and 40 per cent of the school-age population is totally excluded from the educational system. This is mainly in rural zones, and some marginalized sectors of urban zones, especially in intermediary and small-sized cities and in those countries with a high proportion of indigenous population.

ii) The rural population that penetrates the educational system receives from 1 to 3 years of primary education, generally in schools having teachers with little or no professional qualifications.

In any case they do not acquire functional literacy.

iii) Primary teaching is complete in urban nuclei, and the schooling rates achieve relatively high levels. However, the drop-out rates are quite high, particularly in children coming from the poorer sectors of the population. This situation is differentiated according to the degree of industrialization of the country, its degree of urbanisation and the "antiquity" of both structures.

iv) The secondary cycle of the system is divided into three kinds: a) programmes of technical training of one or two years of duration, dedicated to the preparation of qualified industrial workers; b) technical industrial schools dedicated to preparing middle-level technicians; c) humanistic, normal, and commercial baccalaureates dedicated to preparing the elites of the middle class, non-manual, which in large proportions will enter university.

v) In the higher cycle, the differentiation occurs a) between short-term and long-term studies of unequal prestige and with very different income levels possible; b) through academic unites with unequal levels of equipment, academic quality and social prestige; c) through universities that require full-time attendance and those where part-time studies are permitted.

vi) Finally, when the universities become massively attended, the post-graduate programmes arise, which, rationalized in function of the problems of professional qualifications, operate quite efficiently as mechanisms of differential distribution of power.

II. The second type of situation, resulting from the rapid growth of the educational system according to the patterns pointed out in the previous section, results, according to German Rama, in the following:

> "...the tendency to transform the pressures for social mobility into institutionalized expectations for social mobility, since;
>
> i) it legitimizes the system of domination, presenting it as open to the change of power, this being interpreted as composed of leading elite, replaceable by social mobility or by replacement;
>
> ii) it substitutes intergenerational mobility with the expectation of intergenerational mobility;
>
> iii) it provides the opportunity of socialising the mobilized groups against the system of domination in situations where the group admits the possibility of its own change;
>
> iv) it adjudicates to the educational system, apparently neutral with respect to social classes, the role of selecting the individuals for the stratified positions, with which it legitimizes - in the name of the culture - the position of the dominant classes; and

v) it promotes the mobility necessary for maintaining the system as legitimate."(18)

This is, the illusion of social mobility that appears when secondary and higher schooling rates in Latin America are compared with the rates of Europe and the United States, in times when the per-capita income levels were relatively equivalent, does not represent a greater opening of the Latin American social system, but only makes obvious that entrance into the secondary educational levels is more accessible for some groups than obtaining property or income. The accomodation of the power system to this new type of consumer pattern - imitative of the educational consumer patterns of the contemporary metropoli - is quite rapid and very efficiently used for lowering the tensions that these new social groups can generate.

This generalized model has its shades of differentiation within Latin America, shades that vary according to the various styles of development, groups in power, and especially to the historically-determined structural conditions. The situation is not, of course, identical in the countries of "old" industrialization and the countries of "recent" industrialization or in the countries of incipient industrialization.(19) The typology offered by Rama synthesizes well the various educational styles and their correlates in the political, economic, and social dimensions. Of course any typology has the limitation of putting into pigeonholes situations that often are intermixed, given the dynamic of the concrete, and thus their utilization is limited.

Social equality does not depend and should not depend on the equality of possession of knowledge. It does not make sense economically nor politically nor socially to maintain that everyone should go through university in order to reach higher occupational and income levels. To admit this as a necessity is to accept a pattern of imported organization and consumption, in circumstances where in those same countries that imposed these standards for entrance into the labour market, the standards are no longer being held.

The necessity of implementing effective mechanisms for guaranteeing a minimum of education to all the population is a necessity, justification for which is found first the political and social criteria and only secondly in economic and utilitarian criteria. Ignorance is a handicap in any type of society and independently of the use that schooling can have as an instrument for generating capable persons for facing the working world on any level, there exists the primordial and basic intellectual function, especially if by intellectual we mean the opposite of ignorant. The political function of education is to achieve persons that think for themselves - that is, are capable of elaborating an independent judgement. Of course education must give place to a utilitarian function, either through an application of the knowledge learned to daily activities, or through the creation of the complex of attitudes and mental states, principles and ideas that allow the individual to associate what he has learned in school with similar tasks.

But the growth of the educational systems, following patterns that transform them into one more element of consumption that gives the illusion of redistribution of power and wealth, transforms the educational institutions more and more into places where time is wasted, and less into agents of change that it is supposed they should be.

It actual situations, the claims for a greater expansion of secondary and higher enrollment at the expense of the expansion of primary and pre-primary schools to more extended nuclei of the population, simply sanction the state of social discrimination existing, and make more acute the differences between the less privileged groups and the least privileged groups. Behind the "good intentions" that are sustained for justifying the disproportionate growth of the universities at the expense of, or without pressuring for the rights of, those that don't have access even to a minimum of education, and all in the name of "fighting against the system" - there hides a frankly acritical attitude, always simplistic and often cynical with respect to the origin and nature of the social inequalities.

The school fulfills a function of social and occupational mobility, but it is not an agent of social equalization. If there is mobility, it is always partial and conditioned to structural mobility. It is not a static mobility, but its dynamism responds to a nature foreign to the aims of a democratic and pluralist system, in order to in fact transform it into an anti-democratic and anti-pluralistic agent.

In the sections that follow, the problems of the functioning of the formal educational system are analysed in detail, by levels, with principal attention to the problems of absorption, repetition, chronological delay, and school drop-outs.

FOOTNOTES

1. See, for example, the Introduction, Chapter I.

2. Solari, Aldo: "Algunas paradojas del Dessarrollo de la Educacion en America Latina" Revista Latinoamericana de Ciencias Sociales, Santiago, Chile, June/Dec., 1971.

3. See Chapter VI, Illiteracy in Latin America.

4. The data in Table 14 were calculated by the author, since those used by Solari apparently calculated by CEPAL for 1965 , highly over estimate secondary enrollment in those countries used for the comparison: Brazil, Colombia, Chile, Mexico, Argentina, and Uruguay. The schooling rates for the secondary cycle for the 15 to 19-year old population that appear in Solari's tables are as follows:

Brazil	25.9
Colombia	23.8
Chile	36.3
Mexico	17.9
Argentina	51.4
Uruguay	53.7

In the chapter on Secondary Education, we reproduce UNESCO data which is much more reliable. The important thing to note is that independently of the fidelity of the data, Solari's hypothesis is maintained although the intensity of the relationship changes.

5. See Chapter X, Higher Education.

6. Around 1900 the per capita income in the United States was about $500.

7. Solari, op. cit.

8. Solari, op. cit.

9. The term "educational threshold" is used to indicate the additional quantity of schooling that a subject needs to maintain or overcome the social status of his partnets, as a consequence of the effects produced by what is known as "structural mobility". For greater detail, see Blau, P., and Duncan, O., The American Occupational Structure, New York, 1967.

10. Rama, German, Educacion, Imagenes, y Estilos de Desarrollo, CEPAL Division of Social Development, Buenos Aires, 1974. Mimeo.

11. German Rama, ibid.

12. See Chapter XI, Education as an Economic Investment.

13. Cardoso, F.H. and Faletto, E., Dependencia y Desarrollo en America Latina, Siglo XXI, Mexico, 1969.

14. German Rama, op. cit.

15. We are referring here to the arguments maintained by Karl Popper in The Open Society and Its Enemies, Harper Torchbooks, New York, 1963. Two volumes.

16. The famous controversy between Davis-Moore on the one hand and A. Tumin on the other, over the inevitability or not of the systems of social stratification, occupied the attention of students of social stratification for a long time. See American Sociological Review, 10 (1945), pp. 242-249.

17. See Karl Marx, especially in Das Kapital, where he discusses the various modes of production, and what Marx calls "The civilising function of capitalism" as opposed to the feudal modes of production.

18. German Rama, op. cit.

19. For details on the typology, see Section A, "Dynamics of the Structure of the Latin America Economic Systems" in Chapter IV.

CHAPTER VI

ILLITERACY

According to the analyses of the census data of the last few decades, notable progress has been made in the majority of the Latin American countries with respect to the raising of literacy rates. Actually, according to the census definitions of literacy, the illiterate population (those over 15 years of age that do not know how to read and write) has diminished significantly.

However, although it is true that the illiterate population has decreased in relative terms, the absolute number of illiterates has constantly increased. For 1960, the illiterate population (15 years and older) was approximately 33 per cent of the total population. At the same time, the school-age population was around 43,805,000, while the enrollment in primary schools was only 23,945,000; that is, 38.5 per cent of the school-age population was not incorporated into the educational system.(1)

For 1970, there were approximately 39,000,000 illiterates; at the same time there existed some eight million 7 to 12-year-old children that still had not been incorporated into the school system.(2) The data shown in Table 17, for the years 1950 and 1960, tend to confirm this information (for 15 of the 20 countries analysed).

There are two problems with the analysis of illiteracy computed from census data. The first of these is of a statistical nature and is derived from the fact that global illiteracy rates (for the overall area as well as for the individual countries) tend to hide the differences arising from the differential weight that the population of the several countries has, as well as the difference in distribution within each country. The second difficulty refers to the conceptual problem involved in the definition of illiterate. We will deal with each problem separately, concentrating first on the problem of the census definition of illiteracy and the meaning of illiteracy, following with an analysis in detail of existing census data.

A- CENSAL ILLITERACY AND FUNCTIONAL ILLITERACY. THE ALPHABETIZATION OF ADULTS.

The conventional definition of illiterate as "a person that does not know how to read and write", and which serves as a basis for the census calculations in the determination of illiteracy rates, presents a quite one-sided image of the problem.

In almost all the countries, the data used is the positive reply of the subjects to the question of whether they know how to read and write, or worse, if they have attended schools or not. As will be seen later on, the greatest rates of desertion from primary school are found in the first and second grades; here the retention-of-what-is-learned factor plays a very important role, making a large section of the population appear to be literate because of some schooling, when in fact it belongs in the illiterate category. In this sense, a narrower definition of literate as a person qualified for the functional use of reading and writing, that is, for its effective utilization in the working world, would have as an immediate result a considerable increase in illiteracy rates for all Latin American countries.

The literate and the illiterate belong to two different socio-cultural worlds. The socio-cultural world of the literate person, characteristic of the modern or industrial societies, makes a relationship between man and his world - particularly in the working world and in the universe of communication on all levels - in which a certain degree of rationality or professionalization rules, closely linked to the level of education reached. From the political and social perspective, literacy becomes one of the requisites, now not simply for the reading of one's rights, but also and more important, for taking consciousness of the necessity for association with groups of equals, and for the effective exercise of these rights and for the claiming of new rights.

Understand that we are not talking about a lineal relation in which the subject with greater education is in a situation of greater advantage than the subject with a lower educational level. The functional utility of education in the distinct spheres of our capitalistic societies always implies a "minimal threshold" that begins first with the passage from the illiterate society to the world of symbolic communications, the world of the written word - the Guttemberg Universe as McLuhan calls it - which offers the possibilities and potentialities of its manipulation on all levels. Here and on this level we are not trying to discuss whether or not the formal systems, as they operate, lead necessarily to the passage from one universe to another. Nor are we trying yet to differentiate whether or not schooling is synonymous with education; we are simply trying to delimit the first level of the passage.

Although it is correct that from the point of view of the social system as a whole, in our dependent societies and in the metropolises on which they depend, the levels of schooling are closely dependent on the system of social stratification, it is also evident that these same levels are an important indicator of the determination of what could be denominated the "psychological density of the population" - an indicator which would express the "average level of the professional quality" that the society has with which to confront the complexities of the modern world, at least those referring to the technical sphere. The functioning of the educational system according to its explicit aims on the individual and collective levels (when they system in addition to simply transmitting information, also forms a socially significant personality and character) arouses the expectation that the psycho-social quality of the population will increase.

However, the educational system in Latin America is not fulfilling its explicit aims. Worse, there exists evidence to show that the system seems to operate in a direction inverse to its aims.

Liberalism in Latin America, which presented the educational system as one of its pillars for the construction of the modern world ever since the liberation from Spain and Portugal, has rarely been an active liberalism. The ideals of equalitarianism, anticlericism, modernity, belief in education and science, and rationality became part of the legal apparatus and superstructure, before becoming the concrete practice of governments.

There still exists illiteracy in the more modern or developed countries of the area, such as Argentina, Uruguay, and Chile. These countries were the closest to the liberal plan (referring to the participation of different groups in the political power of the state and to the greater generation and wider distribution of wealth), yet this proximity was incomplete, since the plan was born and bred within the new schemes of the organisation of the international market.(3) This generated a structure of dependency on the central countries, and created a whole system in which the leading elites lacked the flexibility for adapting to the more modern politics and forms of organisation in the economic, political, and social spheres. The crises aggravated by the thirties were resolved in general with provisory formulas of political authoritarianism and economic liberalism in all the countries, especially in the more southern countries of Latin America. Those formulas are precisely the expression of dependence on the international capitalist system and they express a lack of originality.

In this scheme of social organization, it is evident that the educational system follows exactly the same 'deformation' or the same patterns of development peculiar to the economic system: the existence of illiteracy and at the same time, high rates of schooling in the upper levels of the system. The logic of the educational system in the abstract is that of a gradual universalization of education, first elementary and then secondary, in its more advanced stages incorporating into its higher levels important percentages of the appropriate age groups. But this logic of the system can never be independent from the system reigning in the society on the whole. Hence arise these peculiar patterns of development.

The educational supply and demand then appear to be regulated by infrastructural factors, and the political benevolence of men, even in the cases in which this is authentic, it transformed only into decrees or laws which are never fulfilled, or are only fulfillled when the more determinant structural conditions change principally as an effect of the new economic and ecological arrangements.

The illiteracy rates are lower in urban sectors than in rural sectors, simply because: a) there is in the cities a greater supply of educational services, offering at least the complete primary cycle; b) at the same time, there also exists a greater educational demand; and c) the content of the education provided is more relevant to daily existence, on all its levels.

Why are the illiteracy rates related positively to the primary sector of the economy and negatively to the secondary and tertiary sectors? This is because the dominant agriculture is the archaic, traditional low-productivity agriculture, destined to either self-consumption or to local consumption. In those sectors where modern agriculture prevails, mostly for export, the illiteracy rates tend to be low (for example, in the cases of Buenos Aires in Argentina, Ica and Lima in Peru, and Costa Rica). It is true also because the predominance of the secondary and tertiary sectors of the economy implies more complex forms of organization than those reigning in the agricultural sector - for example, the demand for qualifications in factories and offices. Furthermore, in the Latin American case, migrations have resulted in high rates of urban subemployment and unemployment, which have brought with them greater systems of selection on the part of the employers, who utilize as one of the criteria the level of education of the candidates, employing only those that have at least complete primary school. This in turn makes the demand for schooling even more intense with the passing of time.

Finally, illiteracy rates are closely related to two other factors: sex and ethnic composition of the population. In general, this relationship with sex (for older persons), has been that the rate of female illiteracy always manifests higher values than the rates of male illiteracy. However, recently for the majority of the countries, the difference has tended to disappear, and the relation even tends to become inverted.

With respect to the ethnic composition of the population, it is evident that the greater rates of illiteracy are concentrated in the indigenous sectors. The roots of this relationship must be found in the marginalization and in the domination of these groups by white colonizers.

B- AN ANALYSIS OF ILLITERACY ACCORDING TO CENSUS INFORMATION.

The first problem with the analysis is the differential weight of the population of the different countries. In 1969, considering 20 countries (see Table 4), the Latin American population was about 266,850,000 inhabitants, of which more than half were of Brazilian or Mexican nationality. Almost three-quaters of the total population was distributed among the five countries with the greatest population. Of the 20 countries, those with the greatest population represented the following percentages of the total population of the area:

Country	Per Cent
Brazil	33.97
Mexico	18.34
Argentina	9.26
Colombia	7.77
Peru	4.70

To analyse the characteristics of the region, we must specify the units-countries in order then to attempt a typology. However, for the exploration of the causes of illiteracy, it will be necessary to introduce additional criteria of specification with respect to the subdivision of the national units into sub-units or political districts.

1. Rates of Censal Illiteracy: Analysis by Country

The censal distribution of illiteracy by country and according to data from the 1960's permits a first classification of the Latin American countries into four categories:

a. Countries with relatively low illiteracy rates for the region: Argentina, Uruguay, Costa Rica, and Chile.

b. Countries with illiteracy rates that are, although high, below the average for the region: Panama, Paraguay, Colombia and Cuba;(4)

c. Countries with illiteracy rates that include around one-third of the population of 15-year-olds and older: Equador, Venezuela, Mexico, the Dominican Republic, Brasil, and Peru.

d. Countries where more than half the population is illiterate: Nicaragua, El Salvador, Honduras, Bolivia, Guatemala, and Haiti.

Table 16 presents the percentages of illiteracy for 20 Latin American countries. The data presented are the latest available for all the countries. Unfortunately, the data for Cuba and Haiti stem from censuses made in the 1950's. Although the situation in Haiti has not been substantially modified, up-to-date data should reflect substantive changes effected by the educational policies of the Cuban Revolution, at least concerning illiteracy. We maintain the data as it appears in the table for analytical purposes, for the sections that follow concerning the effects of employment and urbanization in the region as a whole.

TABLE 16: PERCENTAGE OF ILLITERACY ACCORDING TO CENSUS DATA, FOR TWENTY LATIN AMERICAN COUNTRIES.

COUNTRY	YEAR	AGE GROUP	PER CENT ILLITERACY
Argentina	1960	14 yrs & up	8.6
Uruguay	1963	15 yrs & up	9.7
Costa Rica	1963	15 yrs & up	15.7
Chile	1960	15 yrs & up	16.2
Panama	1960	15 yrs & up	21.7
Cuba	1953	15 yrs & up	22.1
Paraguay	1962	15 yrs & up	25.5
Colombia	1964	15 yrs & up	27.1
Equador	1962	15 yrs & up	32.7
Venezuela	1961	15 yrs & up	34.2
Mexico	1960	15 yrs & up	34.6
Dominican Rep.	1960	15 yrs & up	35.5
Brazil	1960	15 yrs & up	39.0
Peru	1961	17 yrs & up	39.4
Nicaragua	1963	15 yrs & up	50.2
El Salvador	1961	10 yrs & up	52.0
Honduras	1960	15 yrs & up	55.4
Bolivia	1960	15 yrs & up	60.0
Guatemala	1964	15 yrs & up	62.1
Haiti	1950	15 yrs & up	89.5

Source: Basic Population Data in Latin America, Department of Social Affairs, OAS, Washington, D.C., 1969.

TABLE 17: ILLITERATE POPULATION IN LATIN AMERICA, CA 1950 AND CA 1960. CENSUS DATA. PERCENTAGES, ABSOLUTE DATA, AND RATE OF INCREASE OR DECREASE IN THE NUMBER OF ILLITERATES.

COUNTRY	YEAR	NUMBER OF ILLITERATES	PER CENT ILLITERACY	YEAR	NUMBER OF ILLITERATES	PER CENT ILLITERACY	RATE OF CHANGE
Argentina	1947	1,541,678	13.6	1960	1,281,938	8.0	-16.8
Uruguay	-	-	-	1963	179,500	9.7	-
Costa Rica	1950	94,492	20.6	1963	109,460	15.6	-15.8
Chile	1952	748,950	20.2	1960	731,373	16.4	- 2.4
Panama	1950	132,978	30.1	1960	133,812	23.4	0.6
Cuba	-	-	-	-	-	-	-
Paraguay	1950	255,411	34.1	1963	252,221	25.6	- 1.2
Colombia	1951	2,429,333	37.7	1964	2,526,590	27.1	4.0
Equador	1950	816,354	44.3	1962	799,535	32.5	- 1.2
Venezuela	1950	1,433,852	49.0	1961	1,499,250	36.7	4.6
Mexico	1950	9,272,484	44.1	1960	10,573,163	37.8	14.0
Dominican Rep.	1950	477,29[illegible]	57.1	1960	569,450	35.5	-15.9
Brazil	1950	15,332,6[illegible]	50.7	1960	15,868,792	39.5	3.5
Peru	-	-	-	1961	2,185,646	38.9	-
Nicaragua	1950	369,375	61.9	1963	398,804	50.2	8.0
El Salvador	1950	673,017	61.6	1961	706,837	51.0	5.0
Honduras	1950	631,999	64.8	1961	642,022	52.7	1.6
Bolivia	-	-	-	-	-	-	-
Guatemala	1950	1,138,297	70.6	1964	1,411,440	62.1	24.0
Haiti	-	-	-	-	-	-	-

Source: Statistical Abstract of Latin America. Latin American Center, University of California, Los Angeles, December 1972.

With respect to the total quantity of illiterates, only Argentina and the Dominican Republic presented rates of decrease of some importance during the decade (16.8 per cent and 15.9 per cent respectively). Guatemala and Mexico presented the highest reates in the total quantity of illiterates (24.0 per cent and 14.0 per cent respectively).

In general terms, and with the noteworthy exception of Costa Rica and Guatemala, the countries with the lower rates of illiteracy are those in which the absolute quantity of illiterates tends to decrease.

Evidently, the rate of demographic growth of the country has little direct importance here, whereas other structural factors do. The latter include composition of the labour force, urbanization, ethnic composition, structure of the population by age and sex, and regional disequilibrium.

2. Illiteracy and Distribution of the Labour Force

The first important association is that manifested between rates of illiteracy and some characteristics of the economy, particularly the distribution of the labour force, when the economically-active population is classified by Primary, Secondary, and Tertiary sectors. (See definition in Chapter II).

The correlations were as follows:

a. correlation between labour force employed in the Primary sector of the economy, and percentage of illiteracy:

$$r = .864$$

b. correlation between labour force employed in the Secondary sector of the economy, and illiteracy:

r = -.756

c. correlation between labour force employed in the Tertiary sector of the economy and illiteracy:

r = -.850

From the table and the correlations, we see that the greater the percentage of total population employed in agriculture, silviculture, hunting and fishing, the greater the population of illiterates. Conversely, the greater the percentage of employment in the secondary and service (tertiary) sectors, the lower the illiteracy rate.

In intersectorial terms, it is interesting to note that the correlations of the primary and tertiary sectors have almost the same intensity, although with opposite signs. The secondary sector, although highly correlated with illiteracy, is so in less intensity than the other two sectors.

However, it is necessary to clarify that, although the correlation between employment in the primary sector and illiteracy is important, the type of organization of the agricultural sector, its degree of modernization, and particularly, the type of product and its markets (national-international) strongly affect the determination of the rates. In the analysis by country, particularly in the cases of Argentina and Peru, this fact will be analysed in more detail. Likewise, in the analysis of the rates of schooling as a whole, the importance of the economy will be analysed in greater detail.

TABLE 18: ECONOMICALLY-ACTIVE POPULATION EMPLOYED IN THE DIFFERENT SECTORS OF THE ECONOMY, AND ILLITERACY RATES FOR DIFFERENT LATIN AMERICAN COUNTRIES. CENSUS DATA, IN PERCENTAGES

Country	Year	Primary	Second.	Tert.	Total	Illiteracy
Argentina	1960	22	36	42	100	8.6
Uruguay	1963	20	30	50	100	9.7
Costa Rica	1963	50	19	31	100	15.7
Chile	1960	34	26	40	100	16.2
Panama	1960	48	13	39	100	21.7
Paraguay	1962	56	19	25	100	25.5
Cuba	1950	42	17	41	100	22.1
Colombia	1964	51	18	31	100	27.1
Equador	1962	56	19	25	100	32.7
Venezuela	1961	35	24	41	100	34.2
Mexico	1960	55	18	27	100	34.6
Dominica Rep.	1960	66	12	22	100	35.5
Brazil	1960	54	22	24	100	39.0
Peru	1961	54	18	28	100	39.4
Nicaragua	1963	60	16	24	100	50.2
El Salvador	1961	61	17	22	100	52.0
Honduras	1961	70	11	19	100	55.4
Bolivia	1960	60	10	22	100	60.0
Guatemala	1964	66	14	10	100	62.1
Haiti	1950	85	6	9	100	89.5

Source: *Basic Population Data for Latin America*, Department of Social Affairs, Organization of American States, Washington, 1969.

For now, we will continue with the analysis of the distinct factors that effect the illiteracy rates for the overall region, leaving aside the countries themselves as units of analysis.

3. Urbanization and Illiteracy

The second structural factor, combined with the first and with other structural factors, which is strongly related to the illiteracy rates, is urbanization. The correlation between degree of urbanization and illiteracy according to the data in Table 19 is the following:

Illiteracy with urbanization of 2,000+: r = -.754

Illiteracy with urbanization of 20,000+: r = -.760

The levels of illiteracy within each country also strongly reflect the urban-rural composition of the population, but in varying degrees. The difference is most dramatically noted in the countries with the highest illiteracy rates.

Table 20 shows illiteracy rates discriminated by urban-rural residency and sex.

Note that, except in the case of women of rural zones in Uruguay and Cuba, the feminine illiteracy rates are higher than the male rates. However, when the analysis is made by age groups, in the majority of the countries this relationship is inverted for the youngest age groups (Uruguay, Argentina, Costa Rica, Chile, Panama, Cuba, Colombia, Venezuela, the Dominican Republic, Brazil, Nicaragua, and Honduras).

TABLE 19: PERCENTAGE OF POPULATION LIVING IN LOCALITIES OF 2000 AND MORE INHABITANTS, AND 20,000 OR MORE INHABITANTS, AND PERCENTAGE OF ILLITERACY, FOR VARIOUS LATIN AMERICAN COUNTRIES.

Country	Per cent pop'n. 2000 +	Per cent pop'n. 20,000 +	Percentage
Argentina	68	57.5	8.6
Uruguay	75	58.0	9.7
Costa Rica	31	24.0	15.7
Chile	64	54.7	16.2
Panama	42	33.1	21.7
Cuba	52	35.5	22.1
Paraguay	30	16.5	25.5
Colombia	47	22.2	27.1
Equador	36	26.9	32.7
Venezuela	63	47.2	34.2
Mexico	54	29.6	34.6
Dominican Rep.	29	18.7	35.5
Brazil	40	28.1	39.0
Peru	39	28.9	39.4
Nicaragua	34	23.0	50.2
El Salvador	31	17.7	52.0
Honduras	21	11.6	55.4
Bolivia	30	19.6	60.0
Guatemala	27	11.2	62.1
Haiti	12	5.1	89.5

Source: OAS, Department of Social Affairs, Panamerican Union, General Secretariat, Washington, D.C., 1969.

TABLE 20: LATIN AMERICA: CENSAL ILLITERACY, ACCORDING TO URBAN-RURAL COMPOSITION AND SEX, BY COUNTRY. IN PERCENTAGES

Country	Year	Urban		Rural	
		Males	Females	Males	Females
Argentina	1960	5.0	7.5	16.6	20.9
Uruguay	1963	6.8	7.6	17.6	13.9
Costa Rica	1963	4.0	6.8	21.1	22.6
Chile	1960	7.0	10.9	31.1	36.5
Panama	1960	5.8	7.7	36.8	40.2
Cuba	1953	11.0	11.2	42.6	36.7
Colombia	1964	11.9	17.4	38.4	44.4
Equador	1962	8.1	15.2	38.5	50.7
Mexico	1960	16.7	25.5	42.9	55.3
Brazil	1950	20.1	32.2	60.9	73.2
Nicaragua	1963	17.5	23.0	69.2	71.3
El Salvador	1961	21.0	35.0	61.3	71.4
Honduras	1961	21.0	30.4	60.4	68.8
Guatemala	1964	27.2	41.7	70.4	84.6

For the remaining countries there exists illiteracy data discriminated by sex but not by urban-rural residency.

COUNTRY	PER CENT ILLITERATE	
	MALES	FEMALES
Paraguay	19.2	31.5
Venezuela	32.0	41.6
Dominican Rep.	33.3	37.6
Peru	25.6	31.5
Bolivia	57.6	77.5
Haiti	87.2	91.5

Source: Statistical Abstract of Latin America, Latin American Center, University of California, Los Angeles, Dec., 1972.

Tables 21 and 22 allow us to appreciate the effect of the schooling programmes throughout the population that is being incorporated into the system, assuming that the effect of the massive literacy programmes is minimum. (We will analyze this phenomenon later on.)

It can be observed that the illiteracy rates increase with ascending age groups with different intensity in the majority of the countries. The exceptions are Cuba, for men and women (until 1953) and Brazil, for men, where the rates do not maintain a constant rhythm of growth, but rather increase in relation to the older population. The advances in terms of age groups are quite significant in some countries, particularly in the case of women.

One way of calculating the advances in terms of permeability of the system, is the comparison of the illiteracy rates of two extreme age groups - for example the percentage of illiterates in the 15 to 19 year-old groups versus the 55 to 64 year-old groups, in order to examine the educational progress in each country and for each sex. The results, computed from the data given in Tables 21 and 22, are seen in Table 23.

The most notable cases of advance in both sexes are Uruguay, the Dominican Republic, Panama and Paraguay. In Uruguay, the decrease of illiteracy in women has been the highest in the region, reaching universality of education for the younger women. A decrease in the rates of men can be expected, until they reach the female level.

The Dominican Republic, although with less success than Uruguay, has produced substantive advances in both sexes, a linear decrease being

TABLE 21: ILLITERACY BY AGE GROUP, FOR DISTINCT LATIN AMERICAN COUNTRIES. PERCENTAGES. (MALES)

COUNTRY	YEAR	AGE GROUPS 15-19	20-24	25-29	30-34	35-44	45-54	44-64	65 & +	Unknown
Argentina	1960	5.8	5.4	5.0	5.4	6.4	8.9	11.1	18.6	43.6
Uruguay	1963	3.2	3.6	4.8	5.6	7.7	11.9	17.5	25.9	20.4
Costa Rica	1963	9.1	12.3	15.0	14.7	11.6	19.2	20.9	26.4	16.0
Chile	1960	10.0	11.5	11.5	12.5	15.2	17.8	22.6	31.0	-
Panama	1960	13.4	17.2	20.3	20.4	21.4	28.0	41.3	46.6	-
Cuba	1953	26.6	23.0	20.5	21.3	21.7	22.3	25.3	41.4	-
Paraguay	1962	12.2	13.2	16.1	17.9	20.5	24.2	27.7	37.5	22.6
Colombia	1964	19.0	19.5	21.1	22.6	26.0	29.8	36.4	47.7	-
Equador	1962	18.6	21.9	25.9	26.4	31.7	34.9	37.0	41.9	-
Venezuela	1961	25.5	24.2	25.0	25.2	32.9	42.8	53.3	57.0	-
Mexico	1960	24.6	24.2	26.2	27.5	30.9	37.6	46.1	---(1)	-
Dominican Rep.	1960	18.3	18.7	?	?	37.9	47.0	60.7	73.0	-
Brazil	1960	34.3	30.8	30.9	32.1	44.3	48.9	56.6	---(1)	-
Peru	1961	17.1	18.1	20.2	21.2	27.2	33.8	39.6	52.1	55.1
Nicaragua	1963	48.6	50.1	----50.3-----(2)		51.7	50.1	49.6	48.2	-
El Salvador	1961	38.4	39.2	44.2	45.7	49.2	52.0	55.4	57.3	57.4
Honduras	1961	46.9	47.4	50.3	51.4	55.1	55.2	56.2	52.8	42.8
Bolivia	1950	47.2	45.9	52.4	57.0	61.0	65.6	71.8	80.2	85.7
Guatemala	1964	51.8	51.5	51.2	52.9	58.0	59.4	67.0	68.6	-
Haiti	1950	85.1	83.8	86.3	86.0	88.7	90.0	89.7	90.8	87.9

Source: Statistical Abstract of Latin America. Latin American Center. University of California, Los Angeles, Dec. 1972.

(1) Refers to 60 years and over population.

(2) includes 25 to 34 year olds.

TABLE 22: ILLITERACY BY AGE GROUP, FOR DISTINCT LATIN AMERICAN COUNTRIES. PERCENTAGES. (FEMALES)

COUNTRY	YEAR	AGE GROUPS								
		15-19	20-24	25-29	30-34	35-44	45-54	55-64	65 & +	Unknown
Argentina	1960	5.0	5.4	5.8	6.6	8.4	11.9	16.7	26.9	35.8
Uruguay	1963	1.6	2.6	3.6	4.3	6.4	11.2	17.6	27.1	13.2
Costa Rica	1963	8.1	11.7	15.0	15.3	17.2	21.3	23.1	32.0	19.6
Chile	1960	8.9	11.4	12.4	10.3	18.1	22.1	28.9	37.9	-
Panama	1960	12.0	15.3	19.7	20.7	23.1	31.1	43.1	49.2	-
Cuba	1953	18.7	17.1	15.6	16.6	17.6	10.9	27.0	41.7	-
Paraguay	1962	14.6	18.6	24.6	27.1	34.1	43.7	50.6	66.9	33.9
Colombia	1964	16.1	20.5	24.3	27.2	32.4	38.6	46.1	55.2	-
Equador	1962	21.7	28.1	34.1	36.4	43.0	47.7	50.9	55.2	-
Venezuela	1961	25.0	30.6	35.4	39.1	48.6	57.0	61.5	58.9	-
Mexico	1960	27.2	31.5	35.8	39.0	44.9	52.3	----57.7-----(1)		-
Dominican Rep.	1960	16.7	25.0	---------		46.4	56.9	68.0	73.5	-
Brasil	1960	32.5	35.0	38.8	42.9	51.4	58.4	-	-	-
Peru	1961	35.6	42.5	47.3	48.7	56.8	62.6	66.6	73.5	78.4
Nicaragua	1964	41.6	47.1	--	--	55.0	55.3	55.5	53.7	-
El Salvador	1961	40.2	45.8	43.6	46.5	62.1	66.1	69.2	69.1	81.7
Honduras	1961	44.5	51.5	58.7	62.8	66.0	67.4	68.4	65.1	52.0
Bolivia	1950	67.5	69.8	74.9	78.4	80.5	82.7	86.3	88.9	93.0
Guatemala	1964	60.6	64.5	65.9	68.4	71.4	74.3	77.4	75.3	-
Haiti	1950	87.8	88.8	91.7	92.5	93.6	93.3	93.4	93.2	94.3

ource: *Statistical Abstract of Latin America*, Latin American Center, University of California, Los Angeles, Dec., 1972.

1) refers to 60 years and older population.

TABLE 23: PERCENTAGES OF IMPROVEMENT IN ILLITERACY RATES BETWEEN TWO EXTREME AGE GROUPS, FOR MEN AND WOMEN IN DIFFERENT LATIN AMERICAN COUNTRIES. 15-19 YEARS VS. 55-64 YEARS.

COUNTRY	PERCENTAGE DIFFERENCE Males	Females
Argentina	91.4	234.0
Uruguay	446.9	1000.0
Costa Rica	129.7	185.2
Chile	126.0	224.7
Panama	208.2	259.2
Cuba	-5.1	44.4
Paraguay	127.0	246.6
Colombia	91.6	186.3
Equador	98.9	134.6
Venezuela	109.0	146.0
Mexico	87.4	112.1
Dominican Rep.	231.7	307.3
Brazil	65.0	79.7
Peru	131.6	86.2
Nicaragua	2.1	33.4
El Salvador	44.3	72.1
Hondruas	19.8	53.7
Bolivia	52.1	27.9
Guatemala	29.3	27.7
Haiti	5.4	6.4

clearly noted in each age group. If this tendency continues, the country would pass to the illiteracy rates of the most advanced countries of the region in the decades of the 1970's and 1980's. The same holds true for Panama, where the decrease between one age group and another is more accentuated.

In the case of Argentina, the decrease in female illiteracy through the different age groups has been systematic; while for the case of males, the tendency seems to lead not toward a decrease but rather toward an increase, in a tendency similar to the Cuban case up to 1953, although not as accentuated.

Various countries have maintained relatively stationary rates, particularly Nicaragua, Haiti, Honduras, Guatemala, Bolivia, El Salvador and Cuba. That is, the educational situation with respect to the abstraction of the system seems not to have changed substantively for the different generations, which makes one think that schooling is strongly dependent on the class structure, and on ecological and production factors. In other terms, it would appear that school attendance is a phenomenon of the upper and upper-middle classes.

We have not put forth a precise hypothesis with respect to the inversion of the literacy rates by sex, in the younger ages. We would only like to propose the following lines of argument:

a. It is evident that in the last few years, the population incorporated into the formal educational system has been constantly increasing.

b. It is also clear that the highest drop-out rates occur in the first two years of primary school, particularly in the rural zones and in the marginal sectors of the urban zones.

c. It is possible that the drop-out rates in these years are differential by sex -- that women drop out in a significantly lower proporation than men.

This would explain the differential illiteracy rates in the younger ages. For the adult ages, and for such countries as Peru, Bolivia, and Guatemala, where the difference is still maintained, it is possible that we are not only dealing with problems of differential drop-out, but rather with differential access by sex to the school. Problems of sub-culture are intermixed with production systems that segregate women, especially in the rural sectors - the younger women do not attend school in a significant proportion.

C - THE ALPHABETIZATION OF ADULTS

We have already mentioned above that in the last decades, important progress has been made in decreasing illiteracy rates in Latin America. However, we also indicated that the decrease of those rates was not the result of significant government programmes seeking to have the marginal sectors of the population take part in the benefits of education. Except for the case of Cuba after the Revolution, no country in the area has confronted the problem in a systematic manner.

The programmes of massive alphabetization have resulted in general in failure, for various reasons, among which are:

- they have been poorly planned or implemented, with a medical concept of "erradication" and extensive and generalized "struggle", as if illiteracy were a sickness or a body foreign to local circumstances.
- they have been voluntaristic and not integrated to the special circumstances of the different marginalized groups, appealing to a species of collective solidarity, in situations in which such solidarity was foreign to daily existence.(5)

Albert Meister points out in precise form that all education is functional.(6) However, there arises the need to distinguish types of functional literacy. This distinction is important in order to inject some clarity in the tremendous discrepancy on the level of experts and politicians, concerning the objective and strategic meaning of the literacy programmes. Confused in the argument are the interests of one and another group, their particular conceptions of the social order, and the evaluation of the meaning of educational systems. The objectives or the implementation of adult literacy systems are generally put forth in the following programmes:

a. Programmes are set up for the recuperation of obligatory primary schooling. The objective here is the diploma or certificate of primary studies for the adult population that did not attend primary school or did not finish it. Obviously this type of programme is complementary to the formal school system, since it follows approximately the same methods, although its duration is shorter. In this type of programme there exists a close association between the demands of the labour market - particularly in the industrialized urban sectors - and the abundant supply of labour, which causes a selectivity on the part of the employers, a selectivity in which the school diploma carries an important weight. Sometimes even the governments themselves demand complete primary education for entering into the offical sector. For all these reasons, this type of programme (which operates for the most part as evening or night school) has been quite effective in the larger urban sectors, where the secondary and tertiary sectors are dominant.

b. Other programmes are set up as mechanisms of social homogenization or of social consensus. These have been applied above all in those countries with significant indigenous groups that speak a different language from that of the dominant class. These programmes appear then as programmes of national integration, where by integration we understand the assimilation of the indigenous population to the cultural system of the dominant sector. These programmes have been of little success, as long as the schools of the literacy groups have systematically appeared as external. Also, they have always been done on a small scale and have encountered problems of linguistic and cultural differences.

c. Literacy programmes functional to the work sphere, for professional formation, have been associated more with official and private organizations whose principal objective is not so much the teaching of reading and arithmetic, as the teaching of a trade or of agricultural techniques.

d. Some programmes operate in which literacy is seen as a liberating rather than integrating mechanism. These, rather than trying to socialize the people into the value systems of the dominant groups, deny the dominant culture, affirming the class consciousness and group interests of the illiterate groups. Here we must especially point out the efforts of Paulo Freire.(7) In such programmes, alphabetization is education for change, reflection and man's action over his world in order to transform it. The pedagogy derived from the revolutionary thinking of Freire is a generator of transformations.

These four types of literacy programmes have had their successes and failures. The programmes that function within the scheme of the dominant social relations have only functioned positively or effectively on a small scale; all of the large-scale programmes for the recuperation of obligatory schooling as well as the programmes for the integration of the indigenous population have been failures. The reasons for their failure lie on the level of diagnostics and in the conceptualization of illiteracy, as well as in the methods and conditions which they applied. The criticism of thinkers such as Freire, Illich(8), Ponce(9), Goodman(10) and others, is just, although the alternatives that one or another offer in some cases are realistic, and in others do not even constitute a serious alternative.

Paulo Freire is perhaps the one who has given not only a critique of the social and educational system, but also an alternative and a pedagogical practice of extraordinary effectiveness and meaning. In his critical conception, he not only denounces illiteracy, but also diagnoses with precision the structural causes that produce it.

Alphabetization thus is not the mechanical act of an educator that deposits words, letters and numbers into an apathetic, indolent, unintelligent and incapable individual. To alphabetize is synonymous with to make conscious; it is the creation of change from the oppressed mentality to the free mentality in which man places himself in nature and in society, in which he develops his critical capacity to analyses causes and conseqeunces, and also to take courses of action which change them.

To develop Freire's method is outside the scope of this thesis, however we must point out that the possibility of implementating his methods requires special conditions, since his pedagogy is revolutionary and radical and therefore subversive in relation to the dominant order. Paulo Freire was imprisoned and later exiled from Brazil. In Chile we observed the extraordinary success of his pedagogic practices and those of his groups. The enthusiasm and love of learning which he awoke in the peasants and the learning itself, we have not observed in any experimental situation with all of the existing control variables. But Freire was able to carry on his practice only under certain specific political conditions during the governments of the Chilean Christian Democrats and later the

Popular Front. He always awoke the jealousy of the traditionalist educators as well as of course the attack of the dominant class and groups, until finally many of his disciples ended up imprisoned.

This is the fundamental problem with Paulo Freire's solution, with his Pedagogy of the Oppressed, the application of which requires an atmosphere of liberty. These conditions of liberty are absent in almost all of the Latin American countries.

Ivan Illich, the most noteworthy representative in Latin America of a group of critics of the educational system, and one of the best known heirs of the thinking of Paul Goodman, identifies the school institution with the functions undertaken by the medieval "obscurantist" church. Frequently Goodman and Illich use the metaphor monk-school, accusing the educational system of forming fascists. Such identification is not only simplistic, but also inappropriate for the characterization of the role of education in the Latin American societies.

It is not part of our objective to go deeper into the analysis of the functions of the educational systems in the developed societies. But we must point out that the problematic of Goodman or Meister for the United States seems to us to be too forced for the case of Latin America. Furthermore, the arguments presented to show a similarity of functions between both institutions - medieval church and school - are too unhistorical.

In Latin America, the intervention of the state in education has been precisely part of the programme to disassociate the school from the church (see Chapter III). Although this does not say that the school has become what it should be according to its systems of goals, at least it helps us to explain the apparent contradiction that a system which apparently should generate fascists on all its levels, according to Illich's hypothesis, generates precisely the opposite. The Latin American universities and their body of professors have constantly and from very early stages acted as the "national conscience". It is from the universities that constantly the situations of exploitation and dependence are denounced, and where the more radical groups of society are generated. The Latin American universities are a clear example for the demystification of the generalizing and simplistic fallacy that the educational systems are purely an instrument of the dominating classes. Student agitation in the middle and upper levels of the system did not begin in Latin America in the sixties. It has appeared since 1918.

The lay school is part of the tradition of the liberation of the Latin American people, and this school rather than being the continuation of the obscurantism of the church, as these authors pretend, is an answer to this obscurantism.

The school system is inefficient in Latin America - this much of the argument of Illich, et al, we share. But we do not agree with the alternatives they propose, the elimination of the school is a voluntaristic, romantic and out-of-context proposal. It accepts from the beginning the downfall and leaves the educational system in the hands of the traditionalists; and it antedates the situation to levels of polarization which in Latin America have been more fruitful for the more reactionary groups than for the progressive groups.

Education - or the person educated - can actually lead to a type of situation in which the basic impulse leads to creating and recreating the environment. If it leads to reinforcing the status quo, that depends on the type of institutional arrangements of the global society. We have already insisted in another part of this thesis that the significant changes - this is, revolutions - in the educational system depend on the implementation of previous revolutionary changes in the global society. However, we have also insisted that in this context of the functioning of systems, The possibility exists of establishing reforms in the educational systems within the limits imposed by the structure of the global social system. That is, the professional task does not only consist of making the denouncement and accepting the impossibility of change until the changes are produced just as expected and hoped for. E. Reimer accepts that in situations in which illiteracy is dominant, the significant increase in literate persons can result in changes in the system of domination and changes in the system of relations in the working world. He says:

> "If, in any society, the proportion of persons so educated were twenty per cent instead of two, or thirty instead of three, such a society could no longer be run by a few for their own purposes, but would have to be run for the general welfare."(11)

We again insist that the alternative offered by Freire seems more operative to us than the diagnostics of Goodman, Reimer and Illich. But the implementation of the pedagogy of liberation has as a requisite an atmosphere of acceptance by the nucleus in power. Meanwhile, we either dedicate ourselves to writing manuals about strategies in the abstract, or we try to make the system change within limits that are not static. Our societies are not condemned forever to stay in capitalist dependence, nor will the processes of dependence always be the same. The evolution and the progress of the educational system is neither a purely subjective nor a purely objective problem. We are dealing with processes and systems that operate as much at the objective level of concrete institutions as at the subjective level of values, beliefs, opinions, and attitudes of the actors. We are not condemned to failure, nor will the school as it is carry us along the line of change. The task of denouncement about the inoperability of the system and about the contradiction is an important task. Yet criticism is useful only as long as at the same time we point out, not only the errors, but ways of correcting them, by real and operable alternatives.

It is correct that the anti-democratic character of the educational system emerges from the anti-democratic character of the global social structure. But the extreme positions that seen the educational system, either as "the" key to the solution of the inequalities on the social, political, and economic level; or, on the contrary, as a generating agent of these - these extreme positions try to justify a whole series of ontological suppositions about the global society and about the educational system, rather than realize an objective analysis of the situation.

Those that adjudge the educational system to have a central and determinant role in economic, political, and social development, above all from the experience of the now-developed countries (A. Curle, Anderson, Schultz, et al) undertake hurried, ahistorical abstract generalizations. In general, these do not take into consideration other determining factors at the macro-economic and macro-social levels, which seem to be the factors that affect in a more significant manner the development and undevelopment on all levels. Education is not the panacea for development, and at the same time, education is one of the mechanisms that can have an important role in this complex of factors that make for the transformation of the world.

D- ILLITERACY IN THREE LATIN AMERICAN COUNTRIES.

The three countries selected for this analysis are Argentina, Peru, and Mexico. The reasons for their selection are as follows:

a. Each one of them represents different structural characteristics, if not extreme, at least polar.(12)

b) There exists for these countries quite complete information of a census type.

Argentina, in the 1960's, showed the lowest rates of illiteracy in Latin America. It is the second largest country in size, its population making up approximately nine per cent of the total Latin American population, with the lowest demographic growth of the area (1 per cent per year). The population is basically of European origin, with little indigenous population: 170,000 indigenes are scattered about the provinces of Jujuy, Salta, Corrientes, Chaco, Santiago, and Neuquen. In general terms, Argentina can be classified as an industrialized and urbanized country, with a labour force mainly occupied in the secondary and tertiary sectors of the economy, with 68 per cent of the population living in centres of more than 2000 inhabitants (73 per cent in 1970). In 1971, the gross national product per inhabitant was the highest in Latin America: $1074, compared to a Latin American average of $564. In 1962, the life expectancy at birth was estimated at 68 years.

Peru, with 4.7 per cent of the total population of Latin America, in 1961 had 39.4 per cent of its population illiterate. The Peruvian population - and this is its distinctive characteristic compared to Mexico - has a high proportion of indigenous population (approximately 40 per cent of its population). The majority of native people still use the Quechua and Aymara languages. The Peruvian demographic growth in 1960 was 3.1 per cent per year, with the proportion of the 5 to 24-year-old population clearly increasing. Sixty-one per cent of the Peruvian population in 1960 resided in centres of less than 2000 inhabitants, and for 1970 it was estimated that this percentage would have been reduced to 51 per cent. The gross national product per inhabitant was $477 in 1971, and in 1962 the life expectancy at birth was estimated at 52 years.

Mexico, with 34.6 per cent of its population illiterate in 1960 (6,742,650 illiterates), is the second most populous country in the region: approximately 48,000,000 inhabitants in 1970. According to the 1970 census, there were 3,111,415 persons older than 5 years that spoke an indigenous language; that is approximately 7.8 per cent of the total population. In 1960, the economically-active population was distributed in a quite similar way to that of Peru, with a predominance of the primary sector over the secondary and tertiary sectors of the economy, although in 1970 only 41.8 per cent of the labour force was employed in the primary sector. In 1960, more than half of the population (54 per cent) lived in centres of more than 2000 inhabitants, rising to 62 per cent in 1970. The gross national product per inhabitant in 1971 was $683, with a life expectancy at birth of 58 years, in 1962.

The limiations and reaches of the analysis of each country and of the comparisons, are conditioned principally by the amount and type of existing information and by its degree of elaboration.

1. ARGENTINA

In earlier sections of this thesis we pointed out the relative progress of Argentina with respect to the philosophy of education and to the conception of the role that the educational system should play in the economic and social development of the nation.

It was not until the 1884 Law No. 1420, that compulsory and free education was established for the 6 to 12 year-old population. This set up the juridical bases which with time were to establish the possibility of free access to the educational system at all levels in the institutions dependent on the state. Although Law 1420 (also known as the "Law of Lay Teaching" because of Article 8 which established the principle of "religious neutrality") referred specifically to the primary schools of the capital city and the national territories, its impact on provincial legislation was immediate. Similar legislation was adopted in each of the provinces.(13)

It became evident in 1890 that the facility to offer free educational services to the school-age population, depended directly on the state of the resources of the provinces. Thus in that year, Law 2737 was passed, allowing the intervention of the nation in the provinces for the maintenance of private schools. However, this measure was not sufficient, and in 1905, Law 4874 was decreed. Known as the Lainex Law, it allowed the installation by the National Education Council, of national schools in the provincial territories that so requested. The situation of regional disequilibrium then became and continued to be so evident that by 1965, fully 6,700 of the total of 16,000 schools in the provinces were national schools.(14)

The early legislation and the effective implementation of it resulted in a progressive schooling of the population. According to data of the various National Population Censuses, the rate of primary schooling in Argentina (for 6 to 12 year-olds) evolved in a quite favourable way for the entire nation.(15)

	CENSUS YEAR					
	1869	1895	1914	1947	1953	1960
Schooling rate (Primary: ages 6 - 12)	20	31	48	73.5	86	90.3

The schooling rate is the component that explains the greatest percentage of variance in the illiteracy rate (see Table 26). It is evident that this relation manifests a series of aspects that have to do with the supply of schools, with the attitude of the population to the educational system, and with the value which is placed on education as a part of the cultural, social, and political world - and of the working sphere. But in turn there are a series of determinants of a higher order - on which all these factors depend - which are the structural factors that will be pointed out later.

The rates of schooling, on every level, and of illiteracy in Argentina, as in the whole in Latin America, obscure the regional disequilibriums, principally as a consequence of the populational weight that some of the states have with reference to the national total. Actually, the Federal Capital, Buenos Aires, Cordoba, and Santa Fe as a group, represent approximately 70 per cent of the total population of the country. At the same time, they are the political jurisdictions with the greatest indices of industrialization, urbanization, and schooling.

The analysis of the illiteracy rates by province demonstrate that the regional disequilibriums continue to determine quite significant differential illiteracy rates, the product of structural factors that continue acting "above" the legislations and the supposed will of the groups in power to make effective the rights consegrated by the law.

Table 24 presents the illiteracy situation by province, in absolute quantities and in relative numbers, for the population censuses of 1947 and 1960.

As can be observed, the relative advance made during these years seems to be significant although in no way radical. Although the situation tends to reflect some improvements, in general no substantial modification was produced. The backward provinces continue to be backward, these being located to the north-east and north-west of the country, bordering principally on Bolivia and Paraguay, and in the zone of Chaco-Santiago (see Map 3).

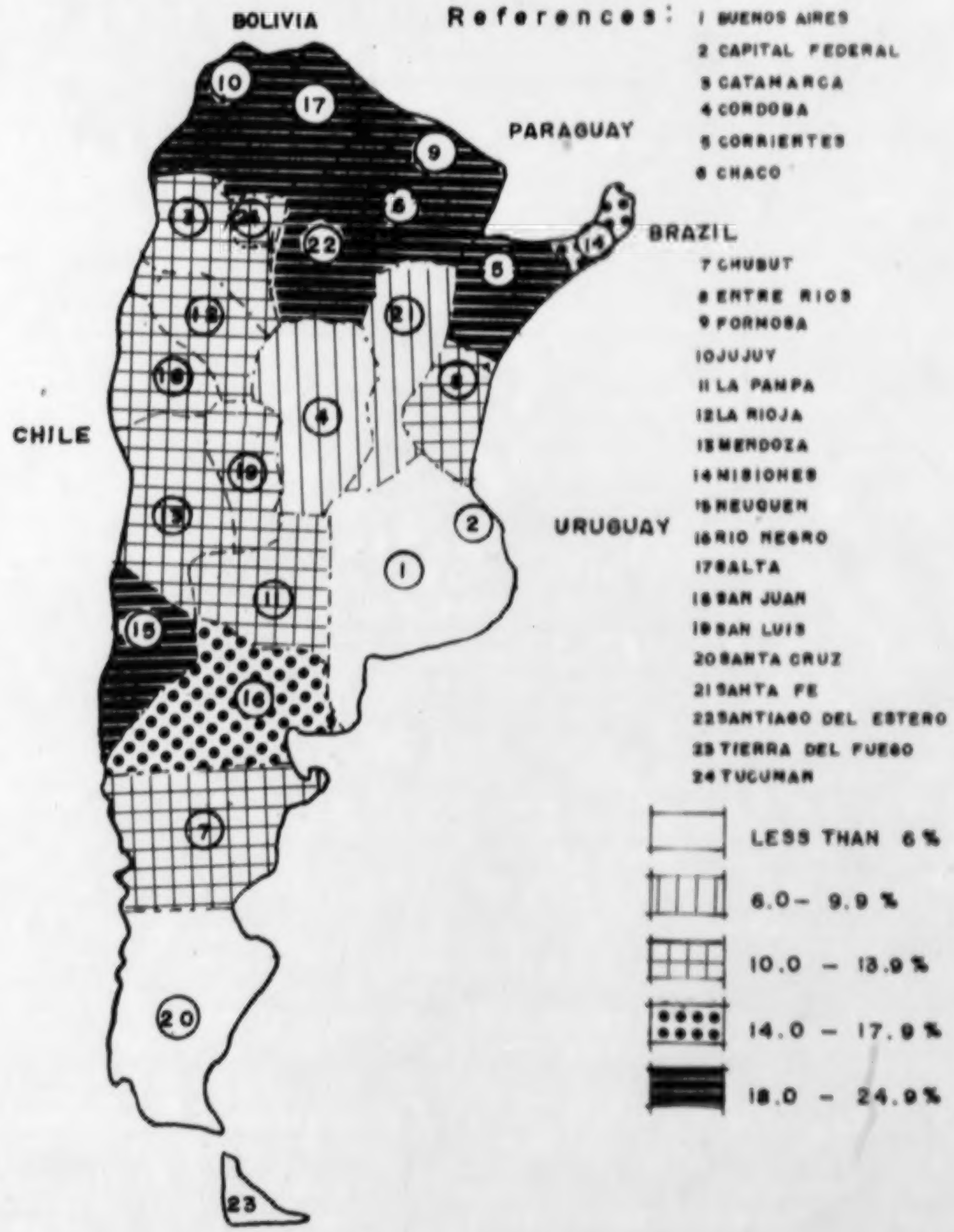
The geographical zones of high illiteracy are located in the subtropical zone where there exists a relative dominance of the primary sector of the economy. Furthermore, here are important sectors of the rural population of indigenous origin who speak Quechua (Jujuy, Salta, and Santiago del Estero) or Guarani (Corrientes and part of Formosa). Agriculture is concentrated on the production of sugar cane, tobacco and cotton (Salta, Jujuy), and cotton, corn and forest products (Santiago del Estero, Chaco, Formosa, where a large, very isolated semi-desert called Chaco-Santigueno exists, with low productivity and a large indigenous population using the Quechua tongue. The land distribution represents a superimposition of 'latifundos' and 'minifundos', in which the indigenes

TABLE 24: ARGENTINA. PERCENTAGE OF ILLITERATES AND ABSOLUTE AMOUNTS FOR TWO DIFFERENT YEARS, BY PROVINCE.

Jurisdiction	1947		1960	
	% Illiterates	No. illiterates	% Illiterates	No. illiterates
Federal Capital	5.7	140,305	3.1	74,984
Tierra del Fuego	5.9	243	4.2	249
Buenos Aires	9.8	314,302	5.6	274,808
Santa Cruz	7.8	2,563	5.7	2,256
Cordoba	13.3	136,625	7.9	97,843
Santa Fe	13.4	166,433	8.2	113,806
Ia Pampa	14.6	16,735	10.0	11,161
San Luis	17.0	17,090	10.9	12,185
La Rioja	18.0	11,873	11.0	8,464
Mendoza	17.3	69,304	11.3	63,333
Catamarca	18.2	15,832	11.6	11,555
San Juan	19.3	31,735	12.1	26,844
Tucuman	21.1	78,592	13.0	62,012
Entre Rios	19.7	97,264	12.8	66,744
Chubut	19.6	12,006	13.3	12,407
Rio Negro	24.0	20,850	16.5	20,506
Misiones	22.6	33,610	16.8	35,396
Neuquen	25.3	13,717	19.0	12,705
Salta	29.8	54,361	19.1	48,397
Formosa	24.3	16,126	19.5	19,753
Santiago del Estero	31.1	82,839	19.8	54,919
Chaco	29.5	74,952	21.2	66,830
Corrientes	31.1	96,559	21.5	68,377
Jujuy	35.1	37,736	24.2	35,874
TOTALS		1,541,652	8.6	1,201,408

Source: National Population Census of 1947 and 1960.

MAP I: ARGENTINA. Percentage of Illiterates (14 years and more), by Province. Data from National Population Census 1960.


BOLIVIA
PARAGUAY
BRAZIL
CHILE
URUGUAY
10
17
9
6
3
24
22
5
14
12
21
18
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References:
1 BUENOS AIRES
2 CAPITAL FEDERAL
3 CATAMARCA
4 CORDOBA
5 CORRIENTES
6 CHACO
7 CHUBUT
8 ENTRE RIOS
9 FORMOSA
10 JUJUY
11 LA PAMPA
12 LA RIOJA
13 MENDOZA
14 MISIONES
15 NEUQUEN
16 RIO NEGRO
17 SALTA
18 SAN JUAN
19 SAN LUIS
20 SANTA CRUZ
21 SANTA FE
22 SANTIAGO DEL ESTERO
23 TIERRA DEL FUEGO
24 TUCUMAN
LESS THAN 6 %
6.0 - 9.9 %
10.0 - 13.9 %
14.0 - 17.9 %
18.0 - 24.9 %

and poor peasants inhabit the more arid and least productive zones, exploiting minifundos that have a barely subsistence level of production.

The zones of high literacy (Buenos Aires, the Federal Capital, Cordoba, Santa Fe, Santa Cruz and Tierra del Fuego) represent the zones rich in humid lands of high-yielding wheat, and the cattle pampa of the central-eastern area and with high industrial concentration. They represent as well as the extreme south, with low population, where the distribution of the land is predominantly latifundist, with proportional important nuclei of population of German and English origin, and with a temporary migrant labour force of Chilean origin. There, the indigenous population is not only isolated, but also clearly in process of extinction.

In absolute terms, the large nuclei of illiterates are located in the zones of greater population concentration. For 1960, only the Buenos Aires-Federal Capital complex, together with Cordoba and Santa Fe, represented 47 per cent of the total of illiterates in Argentina (1,201,408), while the remaining 53 per cent was distributed in the rest of the 20 provinces. The absolute quantity of illiterates in Tierra del Fuego (249) and Santa Cruz (2,256) is very low, and surely is concentrated in the more marginal sectors of indigenous adults and the aged.

a. Illiteracy and Some Structural Factors

In structural terms, the illiteracy rates tend to be concentrated in rural zones, where employment in the primary sector of the economy prevails, and with greater intensity among women than among men.

The rates of urban illiteracy are systematically lower than the rural rates, for both sexes. Although in the urban zone, the illiteracy rate is systematically higher for women than for men - in the rural zone exceptions exist for the provinces of Buenos Aires, Entre Rios, and San Luis, where the rate of male illiteracy is higher than the rate of female illiteracy. It must be pointed out that the recent overall tendencies for all of Argentina are towards an inversion of the dominant tendency, as the illiteracy rates, when discriminated by sex and age, show that the percentages of illiteracy for the younger ages are systematically lower among women than among men. (See Tables 21 and 22).

The difference in the illiteracy rates for urban males varies from 1.9 per cent in the Federal Capital with 100 per cent urbanization, to 9.8 per cent in Corrientes. The difference for urban women is more dramatic. Again, the Federal Capital presents the lowest rate of female illiteracy, while in Jujuy, the rate of female illiteracy represents 21.1 per cent of their population.

In the rural zone, the rate of male illiteracy varies from a minimum of 5.3 per cent in Tierra del Fuego (11.2 per cent of the population residing in rural zones) to 26 per cent in Corrientes. For rural females, the lowest rates ~~are again~~ in Tierra del Fuego (7.6 per cent) while Jujuy presents the highest rates (46.9 per cent).

In general terms, the difference between illiteracy rates for males and females is more dramatic in the zones of high illiteracy

TABLE 25: ARGENTINA: URBAN POPULATION; RURAL AND URBAN ILLITERACY IN MALES AND FEMALES (14 YEARS & OLDER), BY PROVINCE. PERCENTAGES.

Jurisdiction	Per Cent urban pop'n.	Illiteracy			
		Urban		Rural	
		Males	Females	Males	Females
Federal Capital	100.0	1.9	4.0	-	-
Tierra del Fuego	88.0	3.6	5.0	5.3	7.6
Buenos Aires	87.0	4.0	6.0	10.1	8.5
Santa Cruz	53.6	3.4	6.2	6.5	9.1
Cordoba	68.2	5.2	6.9	12.0	12.1
Santa Fe	76.2	5.5	7.7	12.0	15.0
La Pampa	57.7	6.1	7.9	12.7	13.3
San Luis	51.8	6.8	7.4	15.8	14.4
La Rioja	42.6	5.4	6.8	13.7	16.1
Mendoza	64.0	6.1	8.6	17.5	19.6
Catamarca	41.9	5.2	7.5	13.1	17.9
San Juan	54.3	7.7	8.5	16.7	17.8
Tucuman	54.4	6.9	9.1	18.9	21.1
Entre Rios	49.5	7.8	9.0	17.9	16.6
Chubut	54.4	5.1	9.7	19.3	27.9
Rio Negro	63.3	9.4	13.1	22.9	30.6
Misiones	31.8	5.6	12.1	16.6	26.0
Neuquen	48.0	7.1	12.3	24.4	33.2
Salta	55.0	7.8	13.4	23.3	39.4
Formosa	33.6	6.9	14.6	19.6	30.3
Santiago del Estero	35.2	7.7	14.0	19.3	31.2
Chaco	37.8	8.5	16.0	21.9	33.5
Corrientes	46.4	9.8	15.9	26.0	33.4
Jujuy	49.1	8.9	21.1	22.9	46.9

Source: 1960 National Population Census.

(Rio Negro, Misiones, Chubut, Neuquen, Formosa, Salta, Santiago del Estero, Corrientes, Chaco and Jujuy). These are the provinces with the lower levels of economic and social development in Argentina, and where the primary sector of the economy has a quite important relative weight in the structure of employment.

The illiteracy rates, discriminated by age group, indicate a clear progress towards the eradication of illiteracy, particularly in the provinces where the greater concentration of population is concentrated, and where the lowest illiteracy rates in the country were already achieved (Federal Capital, Buenos Aires, Cordoba, Santa Fe, Santa Cruz, and Tierra del Fuego, which together contititue 71.23 per cent of the total population of 14 years and over in the country).

Again, the process of alphabetization of the population is strongly affected by the already existing illiteracy rates, and by the schooling rates, In this sense, the provinces with the highest illiteracy rates continue to show quite high illiteracy rates for the younger age groups (although a certain progress is clearly noted). At the same time, they maintain the lowest schooling rates. The Federal Capital and Buenos Aires are the political jurisdictions that maintain the most satisfactory schooling rates: Functional illiteracy there is of little significance.

By contrast, Chaco, Formosa, Neuquen and Corrientes, and in general the provinces with schooling rates of less than 75 per cent, have the added burden that illiteracy rates will remain the same for a long time, unless massive adult education campaigns are undertaken.

TABLE 26: ARGENTINA. ILLITERACY RATES FOR DIFFERENT AGE GROUPS. SCHOOLING RATES AND PER CENT OF POPULATION 14 YEARS AND OVER, FOR 24 PROVINCES. NATIONAL POPULATION CENSUS FOR 1960.

	Illiteracy rates (age groups)			Schooling rate	Pop'n 14 + over nat'l total
	14-29	30-49	50 +	6-12 yrs.	
Federal Capital	0.82	1.13	7.38	94.67	17.27
Tierra del Fuego	3.46	3.05	10.89	88.97	0.04
Buenos Aires	2.32	3.63	12.82	94.22	35.15
Santa Cruz	2.78	4.67	11.82	81.92	0.28
Cordoba	4.07	7.80	14.61	88.76	8.80
Santa Fe	4.31	6.32	16.14	88.57	9.69
La Pampa	50.9	9.60	19.80	83.36	0.78
San Luis	5.85	10.84	16.75	83.24	0.77
La Rioja	5.17	10.07	24.27	84.88	0.54
Mendoza	6.66	11.53	21.41	82.34	3.86
Catamarca	6.61	10.43	23.88	86.35	0.70
San Juan	6.65	11.75	24.01	83.28	1.57
Tucuman	6.57	11.70	26.16	79.72	3.40
Entre Rios	7.52	12.64	23.72	74.51	3.61
Chubut	10.37	12.59	23.34	75.06	0.65
Rio Negro	11.82	16.91	26,24	73,61	0.87
Misiones	10.87	17.24	31.64	78.66	1.57
Neuquen	15.49	18.29	32.38	70.56	0.46
Salta	12,64	20.84	33.22	76.46	1.77
Formosa	12.38	19.78	36.63	69.66	0.72
Stgo del Estero	10.92	19.65	39.28	80.73	1.96
Chaco	17.13	22.20	32.01	65.86	2.22
Corrientes	14.05	20.91	34.74	74.62	2.21
Jujuy	17.10	28.41	49.97	78.01	1.07
National Total	5.14	7.05	15.59	85.61	100.00

Source: National Development Council, Republic of Argentina: Education, Human Resources and Socio-Economic Development, Series C, No. 73, Buenos Aires, 1968 (information complied from various tables) (IN SPANISH)

TABLE 27: ARGENTINA. ECONOMICALLY ACTIVE POPULATION OF 14 YEARS AND OLDER, ACCORDING TO SECTOR OF THE ECONOMY, BY PROVINCE, NATIONAL POPULATION CENSUS OF 1960. PERCENTAGES.

Province	Primary	Secondary	Tertiary
Federal Capital	0.6	38.3	61.1
Tierra del Fuego	22.0	32.4	45.6
Buenos Aires	13.0	44.1	42.9
Santa Cruz	26.9	41.3	31.8
Cordoba	24.6	32.4	43.0
Santa Fe	22.8	33.8	43.4
La Pampa	42.7	21.6	35.7
San Luis	25.4	29.7	44.9
La Rioja	25.9	28.5	45.6
Medoza	32.9	29.0	38.1
Catamarca	28.5	30.8	40.7
San Juan	36.7	25.3	38.0
Tucuman	32.9	28.8	38.3
Entre Rios	33.3	25.9	40.8
Chubut	27.8	35.1	37.1
Rio Negro	41.8	22.7	35.5
Misiones	52.1	19.2	28.7
Neuquen	31.9	27.4	41.7
Salta	31.8	29.3	38.9
Formosa	50.6	17.8	31.6
Santiago del Estero	32.2	30.8	37.0
Chaco	44.7	25.1	30.2
Corrientes	42.4	18.2	39.4
Jujuy	36.9	30.3	32.8
Total	19.8	35.9	44.3

Source: National Population Census, 1960.

We computed the Pearson correlation coefficient (product-moment) between illiteracy rates by province and employment structure discriminated by sector of the economy (primary, secondary and tertiary); urbanization rate (population residing in centres of more than 2500 inhabitants) and schooling rate in the 6 to 12 year-old population. The following results were obtained.

Variables	Correlation
Urbanization X Illiteracy	-.737
Percentage of population in Primary Sector X Illiteracy	.726
Percentage of population in Secondary sector X Illiteracy	-.631
Percentage of population in Tertiary sector X Illiteracy	-.601
Schooling rate of 6 to 12-year old population X Illiteracy	-.816

All of the correlations are significant at the .001 level.

Contrasting the values found for Latin America, with the values for Argentina, it is clear that the direction of the relationship is identical although the intensity of the relation is less strong between the employment structure and illiteracy in Argentina, than for Latin America as a whole. The correlation between urbanization and illiteracy, however, shows very similar values for Argentina and Latin America.

The intensity of the correlations is very high, which indicates that a great percentage of variance is explained in terms of these structural components. The causal direction in this type of association is clear.

The high correlation between schooling rate and illiteracy helps to explain in part the difference of correlation values between Argentina and the rest of Latin America. It is clear that structural components explain the differntial illiteracy rates, in Latin America as well as in the particular case of Argentina (and, as we will see later, in Mexico and Peru). The difference in intensity of the correlations could be interpreted as a marginal effect of the educational policies on infrastructural factors.

Latin America as a whole, as well as Argentina, belong to the sphere of what are called dependent capitalist countries (see Chapter III). The capitalistic organization of the production and distribution system and its results in terms of social organization, mark the systematic limits within which the greater or lesser "efficiency" of a system can take place, in our case, the educational system. That is, the terms of social inequality produced by the effect of the economic organization, fix, in turn, a certain degree of "perpetuity" of the inequality, although now at different levels. These same levels seem to depend on the degree of dependence of the country or subregion on one or more metropolises.

The thresholds of the inequality are those that change, while the inequality itself remains dependent on the same structural factors in one case, or on class extraction when we go to group or individual levels. In the more peripheral countries or regions, the threshold is located at the entry into the school system, thus the inequality is defined in terms of literate-illiterate.

A second threshold is located on the level of completion of primary school; a third, on the level of entry into secondary school, a fourth on completion of this level, a fifth on the level of admission of higher education, a sixth on the level of completion of this. Once this type of threshold is surpassed, others immedicately arise that operate at times in a parallel manner, such as the stratification of the schools themselves. For example, it is not the same to be a Harvard graduate as to be a Notre Dame graduate, or to attend private school or a state school.

What we are trying to do here is deny the so-called "vicious circles" as a problem endemic to the societies. We are not trying to affirm the right of the universality, for example, of higher education. Rather, we are attempting simply to mark the structural factors inherent in a system that are impossible to overcome, in this case, the inequalities concerning education.

On the other hand, the factual possibility of maximizing the efficiency of a system obliges us to propose that it is possible to arrive at better levels of efficiency, even within specific infrastructural conditions. We will specify: the fact that rural illiteracy is a problem associated with the production conditions effectively puts barriers to alphabetization when this is conceived in merely economic terms. However, when alphabetization has an existential content which embraces the political and social spheres, when it forms a part of a project of a group that is concious of its rights, then the "vicious circles" are broken and the uni-causal determinisms disappear.

What it is important to point out in the case of Argentina - with relatively early legislation and with relatively high rates of primary, secondary, and higher education - is the fact that for an important nucleus of provinces and even for the nation as a whole, the educational threshold continues to be located at the level of entry into the system, that is, at illiteracy. The Cuban experience in the last ten years shows clearly that the situation can be overcome - that it is possible to elevate the educational level of the population at least to the elementary or primary level.

The regional inequities in Argentina and their effects on education, are the result of an historical situation which was not overcome and which dates from the origins of national formation and the resolution of the internal struggles. The dominance of Buenos Aires and the port zone in the 19th century, and the internal struggles between the 'unitarios' and the 'federalists' which was resolved on the legal level in favour of the federalists, resulted in reality in a political and economical organization of united character, with the power centralized in Buenos Aires and with a perisphere of little power and autonomy. The high concentration of population in Buenos Aires, with the tendency to increase, makes Argentina a strictly dual country: 1. developed in Buenos Aires, with characteristics of a consumer society; 2. undeveloped and with double dependency in the interior.

2. PERU

We have characterized Peru as a country with illiteracy rates that include one-third of the 14 -and-over population. In our ordering by illiteracy rates, Peru appears in the fourteenth position in a total of 20 Latin American countries, with 39.4 per cent of the population illiterate.

The most noteworthy characteristics of Peru are the following:

a. The rate of demographic growth is high 3.1 per cent per year, with 43 per cent of the population under 15 years of age in 1960, and with a tendency towards an increase in this sector, compared with the total population.

b. The population is predominantly rural, but with an accelerated increase in urbanization (rising from 31 per cent to 49 per cent between 1950 and 1970). For 1961, 28 per cent of the Peruvian population lived in centres of more than 20,000 inhabitants.

c. For 1940, the Peruvian population, according to census data, had the following ethnic composition:(16)

Race	Per cent
White, half breeds	52.89
Indians	45.86
Asians	0.68
Negroes	0.47
Others	0.10
	100.00

Total - 6,207,967

TABLE 28: PERU. ECONOMICALLY-ACTIVE POPULATION, 6 YEARS AND OLDER, ACCORDING TO BRANCH OF ECONOMIC ACTIVITY, AND DEPARTMENTS. NATIONAL POPULATION CENSUS OF 1961. IN PERCENTAGES.

Department	Primary	Secondary	Tertiary
Callao	9.3	32.6	58.1
Lima	16.2	30.6	53.2
Ica	51.4	20.3	29.3
Tumbes	43.7	13.1	43.2
Tacna	40.0	24.1	35.9
Arequipa	37.4	24.9	37.7
Madre de Dios	52.2	22.1	25.7
Lambayeque	50.6	21.3	28.1
San Martin	77.7	8.5	13.8
Loreto	60.5	10.4	29.1
Moquegua	59.2	17.2	23.6
La Libertad	59.0	18.3	22.7
Junin	54.5	22.8	22.7
Amazonas	77.1	7.2	15.7
Piura	58.6	18.6	22.8
Pasco	50.1	33.2	16.7
Ancash	63.5	17.7	18.8
Cajamarca	79.2	11.9	8.9
Huanuco	78.0	8.0	14.0
Ayacucho	78.6	8.7	12.7
Puno	72.8	13.0	14.2
Cuzco	63.1	15.5	21.4
Huancavelica	79.9	10.0	10.0
Apurimac	79.3	9.2	11.5

Source: National Population Census. First Priority Results, National Office of Statistics and Census, Lima, Peru, 1964.

For 1960, it was calculated that more than one-third of the population was classifiable as Indian. Peru corresponds to the classification of the Witness People of D. Ribeiro (See Chapter IV).

d. The labour force in 1967 had the following composition by the economic sector: Primary - 48.6 per cent, Secondary - 21.1 per cent, Tertiary - 30.3 per cent. The Gross National Product per person in 1970 was $564 U.S. below the average for Latin America.

The overall characterization of Peru is seen more precisely when the data is discriminated according to political division, by Department or State. This we have done in several tables, giving data on the labour force, urbanization, and illiteracy.

i. Economic Structure

The regional imbalances in Peru appear even more marked than those observed in Argentina. Primary activity in Peru is preponderant (50 to 80 per cent of total employment) in 19 of the 24 departments, which in terms of frequency rather than average, makes Peru a predominantly rural country. Only in the departments of Callao, Lima and Pasco is employment in the secondary sector higher than 30 per cent. The weight of the tertiary sector is important only in Lima, Callao and Tumbee.

The data in Table 28 point out the distribution of the labour force by department.

ii. Urbanization

The definition of "urban population" according to the Peruvian census consists of a combination of characteristics (centres, villages, district capitals and other places with streets, plazas, water service, sewage, electricity, and a number of streets equal to or more than the district capital). This makes comparisons with other nations quite confusing. According to the criteria of the 1961 Peruvian Population Census, the population is predominantly rural. In Table 29 appear the values for the 24 Peruvian departments.

Only the departments of Callao and Lima have the great majority of the population residing in urban centres. Four departments have one-third of the population in rural zones: another four in the neighbourhood of 50 per cent: and the rest vary - with between 55 and 85 per cent of the population residing in rural areas. This situation presents special problems with respect to educational supply - the concrete existence of schools, in addition to other problems of a more complex nature, such as distances, occupation of the children, parents, and the value of education for the labour market.

Comparing the values in Tables 28 and 29, it is easy to see the close relation between the levels of urbanization and the employment structure, in the sense that the less the urbanization, the greater the concentration of the labour force in the primary sector of the economy. The relationship between urbanization and employment in the secondary and tertiary sectors is less direct. A clear concentration in the tertiary sector is noted only in Callao, and Lima, as we mentioned before.

Both structural factors (employment structure and urbanization) seem to be the dominant factors with respect to the determination of the illiteracy and schooling rates, particularly in countries where the determinant factor (general policy and educational policy) does effect in a substantial way the bases and the influences of these infrastructural aspects. We will see later that in Peru the ethnic variable seems to play an important role, particularly with respect to the role of women within the indigenous groups and sub-cultures.

iii. Ethnic Composition

To classify the population according to ethnic group is very complicated, as much for the lack of uniform criteria as for the value connotations that such classifications invoke for lack of objective criteria. Thus, the classifications based on the external appearance of the people, or on some physical characteristic, represent a serious limitation to their validity.

In addition to the difficulties represented by the cultural diversity and the social organization of the different indigenous groups, the utilization of such criteria as the geographic or habitational, the ethnographic, and that of development level(17), although they are an advance with respect to the census classification that deals with mother tongue, contains serious limitations that have been observed by

TABLE 29: PERCENTAGE OF POPULATION LIVING IN URBAN PLACES, BY DEPARTMENT. PERU.

Department	Per cent pop'n urban	Per cent pop'n rural
Callao	96.0	4.0
Lima	86.3	13.7
Tacna	69.6	30.4
Arequipa	64.5	39.5
Lambayeque	61.8	38.2
Tumbes	60.5	39.5
San Martin	59.2	40.8
Ica	53.8	46.2
Junin	49.1	50.9
Moquegua	47.7	52.3
Piura	44.5	55.5
La Libertad	41.7	58.3
Amazonas	38.8	61.2
Loreto	38.6	61.4
Pasco	35.4	64.6
Ancash	33.2	66.8
Cuzco	32.4	67.6
Madre de Dios	25.4	74.6
Ayacucho	25.3	74.7
Huanuco	21.2	78.8
Apurimac	19.8	80.2
Huancavilica	19.1	80.9
Puno	18.1	81.9
Cajamarca	14.9	85.1

Source: National Population Census, 1961, Peru.

R. Stavenhagen(18), R. Bartra(19), and L. Arizpe(20), among others. These limitations are tied to certain aspects in the development of dependent capitalism, and the fact of being "Indian" has a social stigma, within a social practice tied to economic and political domination.

The problems related to the language and colour barriers have been ignored so far, reduced to the analysis of an ethnographic descriptive type. Describing the Indian culture in detail has been isolated from the social, political, and economic practices of domination, and from showing the position of the Indian as a peasant or as a member of a marginalized group. The category Indian in such Latin American countries as Peru, Bolivia, Guatemala, Equador, and Mexico, where they make up a majority in the first three countries, and a significant minority in the latter two, is a social category in which the Indian as well as the "mestizo" and the white now do not simply represent two different socio-cultural universes. Rather, they are actors within a complex system of economic and political relations.

The concept Indian, as L. Arizpe points out, is made in a specific context not of phenotypic distribution of the population, but of a distinction inherent in the social structure. The characterization of the Indian is always given as opposite to the characteristics of the "mestizo", which indicates that the concept is not an absolute property, but a relational one. Integrating the cultural specificity of the indigenous groups with the relational political-economic dimension, some authors (Pitt-Rivers(21), Bonfil(22), and Arizpe(23)) propose the utilization of the term ethnia to refer to the indigenes as carriers of a specific cultural inheritance, and the word Indian to designate the mass of population which is found in a position of economic and political subordination with relation to the dominant group on the national level.

With regard to the effect of being indigenous on education, in a quite overall form, in those countries where more than one language has survived, this has been that of the indigenous groups. Their marginalization has occurred in a sitatuion in which the language differences are complicated by the rural residency of the majority of those classified as Indians. The problem of integration into the 'national culture' or the culture of the dominant group, is then made more complicated, particularly in the countries where the indigenous groups represent considerable absolute quantitites, and in situations where they are found geographically concentrated.

The population classified as indigenous according to census data is that which declares some aboriginal mother tongue. Their numbers appear to be decreasing through the years if not in absolute quantities, at lest in relative numbers. The passage from Indian to mestizo results, in census terms, from the simple denial of the Indian about knowledge of some language other than Spanish, or on the caprices or the perception of the census interrogator about the categorization.

The population classified as indigenous in absolute numbers varies from author to author. Margarita Nolasco(24) provides the following data, extracted from various sources of information: Mexico - 4,500,000; Peru - 5,000,000; Bolivia - 3,000,000; Guatemala - 3,000,000; Equador -

900,000. This total indigenous population lives in part in tribes or centres marginalized from the white or mixed population - in part mixed in places with white and mixed population. And in part they live in urban nuclei integrated with the white population.

The latter two categories are bilingual indigenes that later generate monolingual descendents in the dominant tongue. Here, the subject would be characterized as "mestizo", or directly as white. In the marginalized centres, or where indigenous groups constitute a significant majority of the population, there exists a tendency towards the conservation of the maternal aboriginal tongue, or else towards bilingualism.

We believe that this situation will disappear little by little for various reasons, amongst which two are noteworthy. On the one hand, none of the Latin American aboriginal groups conserves the written language, the intergenerational transmission being of an oral nature or through the utilization of Roman characters for the representation of the native sounds. This practice is reduced almost exclusively to white anthropologists, in some minimal group of schools located in sectors of high indigenous concentration principally in Perus and Mexico.

The second factor has to do with the greater interaction between the aborginal population and the population which speaks the dominant language, an interaction unequal in terms of power and political, cultural and economic domination. The rapid urbanization and the institutionalization of the socializing of the youth through the school and religious institutions contribute to a gradual disappearance of the customs, culture, and finally of the language-systems of these groups of natives. The basic sociocultural systems of language, religion, and the arts, gradually lose meaning faced with the attack of the more dominant cultural group that imposes a political and economic system which offers a superior form of integration, whose rules must be adopted by the new generations in order to subsist. The sociocultural system of the anterior generation no longer offers attractions, until it ultimately loses significance.

This seems to correspond to Sorokin's conceptualization:

> "Thus, in any real group - be it a social system or a social group of an intermediary type - its "social" form of being is always inseparable from its 'cultural' meanings-values-norms. Besides the dimension of personality of its members, and real human (superorganized) group is invariably a cultural phenomenon, is always a social phenomenon. The different categories of 'the cultural' and 'the social' are thus inseparable in the empirical sociocultural universe of man".(25)

It should not by this be understood that the incorporation of these groups into the dominant culture is by means of integration. There is a whole process of marginalization to which we will refer later. What we are noting here is the process of cultural domination and the gradual abandonment of the indigenous languages, while significant differences exist in the effects that different cultural groups have in facing the mechanisms of access to power.

The process of interdependence between two socio-cultural systems, and the compatibility, harmony or disintegration in a system of dependence of one group upon another does not necesarily imply the total replacement of one culture by another. A group can maintain its identity, continuity

TABLE 30: PERU: CENSUS POPULATION, 6 YEARS AND OVER, ACCORDING TO EDUCATIONAL LEVEL, BY SOCIO-ECONOMIC REGION. IN PERCENTAGE. 1960 NATIONAL POPULATION CENSUS

		SOCIO-ECONOMIC REGIONS							
EDUCATIONAL LEVEL	TOTAL	North	North West	Mid North	Lima Metro.	Central	Mid South	South West	South
No education	45.8	45.3	43.4	52.0	18.4	50.6	60.5	70.3	52.7
Pre-school	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Primary	43.0	46.7	50.1	42.2	55.6	41.3	32.9	24.5	38.6
Common Secondary	6.9	3.8	3.2	3.1	16.7	4.7	4.1	3.3	5.6
Technical Sec'ry	0.9	0.8	0.3	0.3	2.5	0.5	0.3	0.2	0.5
Normal	0.2	0.1	0.2	0.2	0.4	0.2	0.2	0.2	0.3
University	0.9	0.3	0.3	0.4	2.7	0.4	0.3	0.5	0.6
Other education	0.4	0.2	0.2	0.1	0.3	0.1	0.1	0.1	0.1
Undeclared	1.9	2.8	2.3	1.8	2.2	2.2	1.7	0.8	1.7
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N=	8568027	913118	282200	1883217	1968141	850734	836476	794453	1039688

Source: National Planning Insitute - Organization for Cooperation and Economic Development, Economic and Social Development, Human Resources, and Education, Lima, Peru, 1965 (in Spanish).

TABLE 31: PERU. ILLITERATE POPULATION FOR DIFFERENT YEARS, DISCRIMINATED BY DEPARTMENTS. IN PERCENTAGES.

Department	1961	1964	1967	1970	Increase in illiteracy rates	Pop'n 15+ over nat'l total
Callao	6.0	5.6	5.4	5.3	11.6	2.66
Lima	9.9	8.5	7.8	7.6	23.2	25.01
Ica	15.0	13.6	12.8	12.6	16.0	2.60
Tumbes	21.6	20.5	19.2	18.3	15.3	0.58
Tacna	25.0	23.0	22.4	21.7	13.2	0.75
Arequipa	25.3	22.7	21.8	21.2	16.2	3.95
Madre de Dios	28.0	25.3	24.6	24.1	13.9	0.18
Lambayeque	28.5	25.4	23.7	22.9	19.6	6.41
San Martin	29.9	25.5	22.5	22.2	25.8	1.49
Loreto	32.0	29.4	27.8	27.2	15.0	3.28
Moquegua	34.9	32.2	30.5	30.4	12.9	0.51
La Libertad	35.7	32.9	31.4	31.1	12.9	5.71
Junin	35.8	32.6	30.8	30.5	14.8	5.14
Amazonas	41.2	36.5	34.6	33.5	18.7	1.29
Piura	43.5	40.0	38.3	37.8	13.1	6.37
Pasco	46.9	41.9	39.8	38.9	17.1	1.34
Ancash	50.7	47.6	45.9	45.4	10.5	3.44
Cajamarca	53.8	49.6	47.4	47.1	12.5	7.01
Huanuco	55.4	51.7	49.7	49.5	10.6	3.04
Ayacucho	62.5	59.2	56.8	56.4	9.8	3.30
Puno	64.3	55.7	52.6	50.5	21.5	6.26
Cuzco	65.8	57.8	55.1	54.5	17.2	5.80
Huancavelica	70.2	66.2	63.4	62.8	10.5	2.56
Apurimac	76.0	67.1	62.6	58.6	22.9	2.32
TOTAL	38.5	34.3	32.0	30.8	7,471,200	100.00

Source: Ministry of Public Education of Peru: Sectional Planning Office, Basic Statistics of Educative Nuclei, Vol. 3, Lima, 1973 (in Spanish).

and individuality - that is, a certain degree of autonomy - while it maintains a high degree of organization, exercising some degree of selection over the elements of interaction.

Anyway, the members of one or another group can share cultural subsystems that are partially in harmony, partially in coexistence, partially in contradiction.

iv. Demographic Growth

The high rate of demographic growth of Peru has an immediate effect an increase in the potential demand for primary education, since this is by law considered obligatory for the 6 to 14 year-old population. Accelerated demographic growth creates then a greater demand for investment in primary education, in a general context of high concentration of illiteracy in indigenous groups, in rural zones, and in the female sex. We will later analyse the factors of interaction among these variables.

v. Illiteracy

In Peru, according to data from the 1960 National Population Census, 2,185,646 persons older than 15 were registered that did not know how to read nor write. This in relative terms puts Peru in a situation more or less similar to that of Brazil, the Dominican Republic, Venezuela, Equador, and Mexico.

In general, the Peruvian educational system is typically Latin

TABLE 32: PERU. TOTAL POPULATION OF 4 YEARS AND OVER, NON-STUDENTS, ACCORDING TO EDUCTIONAL LEVELS REACHED.

LEVEL REACHED	PER CENT
No education	68.3
Primary	
First Cycle	11.3
Complete	14.3
Common Secondary	
First Cycle	1.5
Complete	2.8
Technical Secondary	
First Cycle	0.4
Complete	0.2
Normal (complete)	0.2
University (2nd Cycle)	0.6
Other Education	0.3
TOTAL	99.9
N	(6,617,405)

Source: National Population Census, 1961.

American, if by that we mean the most frequent situation in the various countries. A great proportion of the population is illiterate, followed by large sectors with primary education, a low degree of secondary schooling, and a low proportion of the population with post-secondary education. The rates vary according to different socio-economic regions: the better levels of schooling are concentrated in the metropolitan region.

Table 30, discriminating the same data, for 6 year-olds and older, and by socio-economic region, points out the concentration of educational activity in the zone of metropolitan Lima (including Callao). It is evident that the zones of greater illiteracy are concentrated in the south, centre, and mid-north of Peru. In this table, the rates of illiteracy appear less high than those of Table 29, because it deals with 6 year-olds and older. Here exist complications because the age of effective incorporation into the school system should be 7 years, while normally in the more backward regions entrance into the system - when it exists - becomes operative at 8 or 9 years.

As can be observed in Table 32, since 1961, substantial advances in alphabetization have been produced in all of the departments, although with greater intensity in some than in others. The highest rates of increase in literacy are observed in the departments of San Martin (25.8 per cent), Lima (23.3 per cent), Apurimac (22.9 per cent) and Puno (21.5 per cent). The lowest rates are given in the departments of Ayacucho (9.8 per cent), Ancash (10.5 per cent), Hunacavelica (10.5 per cent), Huanuco (10.6 per cent), and Callao (11.6 per cent).

TABLE 33: PERU. URBAN AND RURAL ILLITERACY BY AGE AND SEX FOR THE 15 YEARS AND OVER POPULATION. IN PERCENTAGES.

AGE GROUP	TOTAL			URBAN			RURAL		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
TOTAL	38.9	25.6	51.8	17.7	9.3	25.9	59.5	41.6	76.4
15-19	25.2	26.8	33.5	8.8	5.1	12.4	41.9	28.4	56.0
17-19	27.0	15.3	27.1	10.5	5.9	15.3	44.8	29.5	60.8
20-24	30.4	18.1	42.5	14.4	6.0	18.4	49.8	31.6	66.9
25-29	34.1	20.2	47.3	14.1	6.4	21.6	53.9	34.2	72.0
30-34	34.9	21.2	48.7	14.6	7.0	22.5	55.8	36.3	75.1
35-39	41.1	25.9	55.4	19.1	9.1	28.2	62.0	42.0	80.3
40-44	43.8	28.7	58.7	20.7	10.6	31.0	65.3	46.0	83.9
45-49	47.8	33.2	61.7	24.5	13.3	35.1	68.9	51.0	85.9
50-54	49.5	34.6	63.7	25.5	14.1	36.8	71.5	54.0	87.9
55-59	50.5	36.3	64.1	27.4	15.5	38.8	72.2	55.8	88.0
60-64	57.1	43.3	69.2	31.7	19.1	42.6	77.5	62.4	90.9
65-69	56.7	43.1	78.1	31.6	19.2	41.9	78.4	63.7	91.0
70-74	64.0	50.8	74.1	36.2	22.2	46.9	83.9	71.3	93.6
75 and +	70.6	64.2	77.4	43.0	31.3	50.6	86.9	77.1	94.6
Undeclared	66.9	55.1	78.4	51.5	36.5	64.2	79.3	68.6	90.4

Urban: centres, towns, district capitals and other places with streets, plazas, water, sewage, lighting and street numbers equal to or more than the district capital.

Source: National Population Census, Peru, 1961, and: National Planning Institute: Social and Economic Development, Human Resources, and Education, Lima, Peru, 1965.

For the rest of the departments, the rates of improvement in the relative advances in literacy seem to indicate that there did not exist during the 1960-1970 decade, a coherent educational policy in terms of priorities. Rather, there was greater or lesser schooling in terms of successes of local nuclei in the education of the younger population.

What is indicated is that the decrease of illiteracy is not due to the effect of adult literacy programmes, but rather to the relatively greater entry of the school-age population into the school system.

This is seen in a clearer form in Table 33, where illiteracy is discriminated by age group, sex, and urban-rural residence.

Taking as a base, the difference between the rate of illiteracy in the 65-69 year-old population and the 15-16 year-olds, it can be observed that, although for the total population the "advance" has been in the order of 55.6 per cent, in the case of males it has been more pronounced than for females. The difference between sexes with respect to illiteracy rates remains very marked in Peru, contrary to what occurs in various other Latin American countries (Argentina, Uruguay, Cuba, among others). The difference is found in urban as well as in rural areas.

In general terms, the female illiteracy rate is approximately double the male rate, the more extreme differences being found in rural areas. Even among young women (15-16 year-old) the illiteracy rate reaches the order of 56 per cent of the population in urban zones, although female illiteracy is more than double the male rate, for the younger ages the rates remain relatively low in relation to the averages, for both sexes, in general, and particularly for the age-inclusive female averages.

It is evident that one of the most important problems in the task of alphabetization of the population in Peru is represented by the weight carried in the population component by the indigenous groups that speak Quechua or Aymara and which remain relatively isolated in the tropical jungle and sierra regions.

It was not possible to locate precise data about the educational levels of the indigenous population. However, the data of Table 34 permit us to have a first impression of the weight of the indigenous component in the actual socio-political structure of Peru.

Observe that more than two million of the persons registered in Table 34 were born with a language other than Spanish (25.2 per cent). Of this total, only 24.1 per cent speak Spanish and know how to read and write. It is clear that in Peru, they are quite far from reaching the minimal integration into the national community that has been achieved in Mexico.

It is therefore complex to assume a categorical position with respect to survival, not of the cultural values of the pre-Colombian indigenous groups, but of their descendents, conquered, eliminated, dominated, and finally marginalized.

In the actual situation of the Peruvian and Latin American indigenes, the supposition of their integration into the nation through the conservation of the language and thus the culture, is very complex and problem-ridden. The pre-Colombian indigenous culture has not survived

TABLE 34: PERU: PERUVIAN-BORN POPULATION, 5 YEARS AND OVER, BY SEX, SPANISH TONGUE, ILLITERACY, AND MOTHER TONGUE, PERCENTAGES AND ABSOLUTE VALUES.

	TOTAL	MALES	FEMALES
SPEAK SPANISH	80.9	86.0	75.8
	(6,607,402)	(3,481,215)	(3,126,187)
-read and write	56.8	66.6	47.1
	(4,638,169)	(2,695,725)	(1,942,444)
-do not read and write	24.2	19.4	21.6
	(1,969,233)	(785,490)	(1,183,743)
--Spanish mother tongue	18.0	14.4	21.6
	(1,471,591)	(582,172)	(889,419)
--Aboriginal mother tongue	6.1	5.0	7.1
	(497,642)	(203,318)	(294,324)
DO NOT SPEAK SPANISH, DO NOT READ AND WRITE, HAVE ABORIGINAL NATIVE TONGUE	19.1 (1,564,002)	14.0 (4,568,180)	24.2 (995,822)
	100.0	100.0	100.0
TOTAL:	(8,171,404)	(4,049,395)	(4,122,009)

Source: National Population Census, 1961.

in the Quechua and Aymara groups; it has not even survived with written language. The surviving indigenous groups are groups without power or organization, marginalized from the overall society or integrating as mestizos.

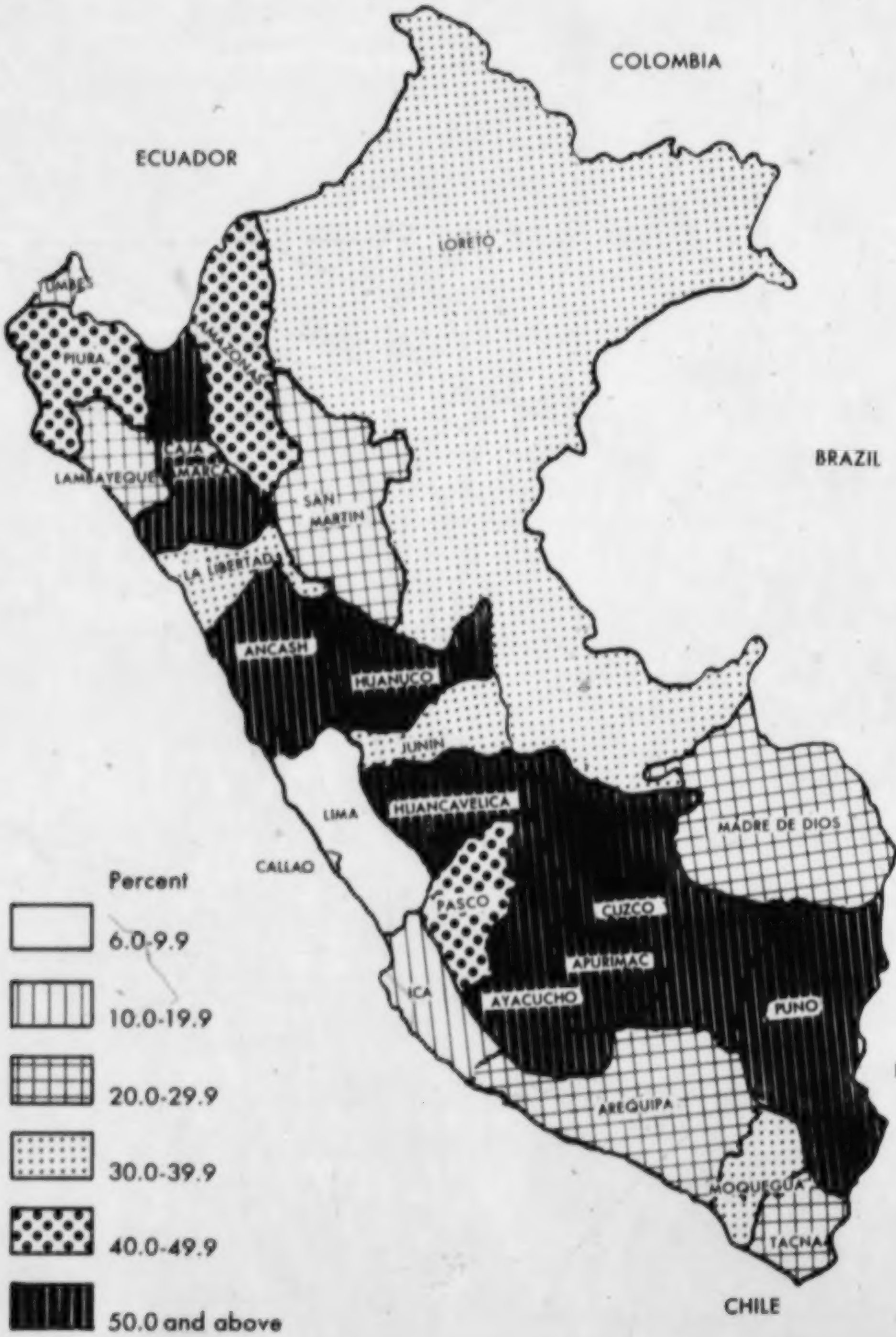
In the actual structures of power and domination, the marginalization of the indigene, first through non-communication with the language of the group that establishes the over-all national milieu; and immediately through the political and principally economic exploitation that ignorance generates - means that in order for the indigenous groups to subsist as such, there is a necessity for bilingualism and the learning of Spanish. This does not mean that with the mere learning of the dominant language, the indigenous groups are going to accede to power. Even less does it mean that the exploitation will be eliminated. We have already insisted that these situations depend on more complex factors; they obey a dynamic in which the voluntaristic factors are of little weight. But learning the dominant language does mean, we believe, the possibility of less marginalization, and more meaningful associations among interest groups.

The data of Tables 35 and 36 reaffirm two situations. On the one hand, illiteracy in urban groups for the younger ages, particularly males, begins to reach more or less satisfactory levels. The importance that the rural sector has for the achievement of universal alphabetization is very great in Peru, above all for the volume of female illiteracy. The cultural factors that seem to be intervening in the rural zones and to some extent in urban zones, and that marginalize particularly the women, seem to be a constant in those countries with a high concentration of indigenous populations (Bolivia, Peru, Guatemala, Equador, and in such regions of Mexico as Chiapas and Oaxaca).

The data of Table 36, as well as Maps 4, 5, 6, 7, and 8, and Graph 1, give us a more detailed idea of the distribution of illiteracy in Peru.

Map 4

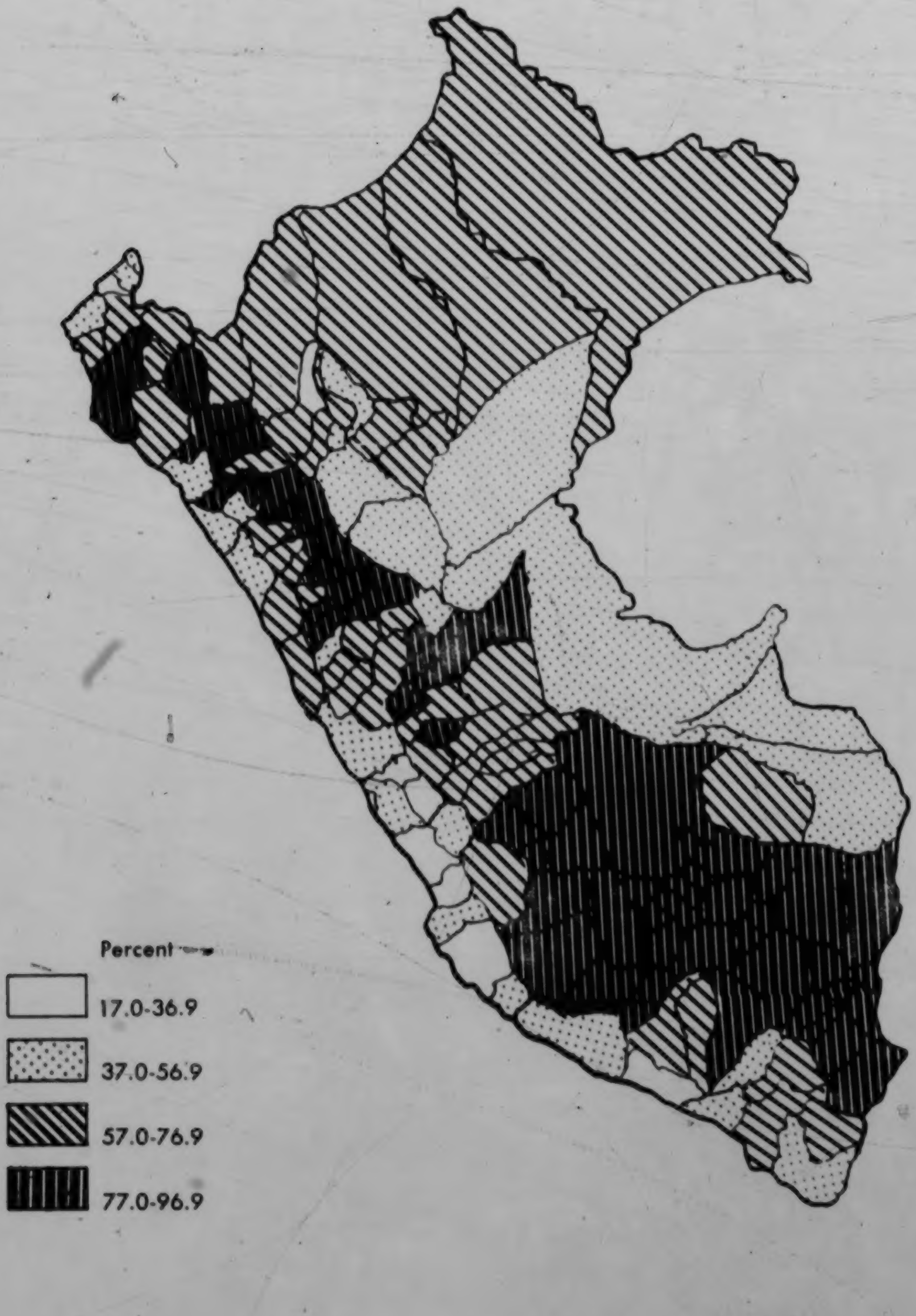
Percentage of illiterate population, by Province, Peru.
Data from the Population census, 1961


COLOMBIA
ECUADOR
LORETO
BRAZIL
TUMBES
PIURA
AMAZONAS
CAJAMARCA
LAMBAYEQUE
SAN MARTIN
LA LIBERTAD
ANCASH
HUANUCO
JUNIN
LIMA
CALLAO
HUANCAVELICA
MADRE DE DIOS
PASCO
CUZCO
APURIMAC
AYACUCHO
ICA
PUNO
BOLIVIA
AREQUIPA
MOQUEGUA
TACNA
CHILE
Percent
6.0-9.9
10.0-19.9
20.0-29.9
30.0-39.9
40.0-49.9
50.0 and above

1

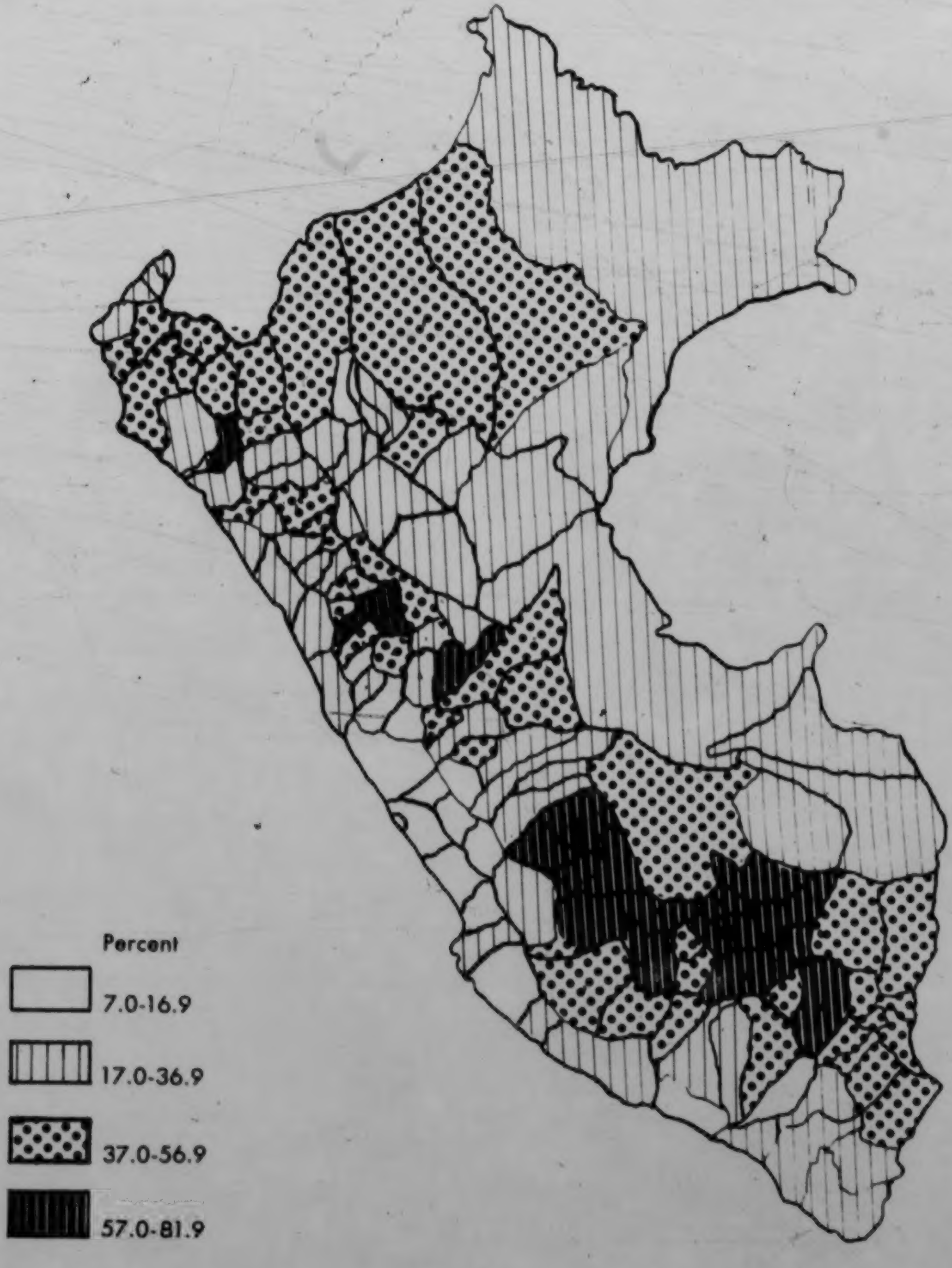
MAP 5

Percentage of rural female illiteracy, by Province, Peru.
Data from the Population census, 1961


Percent
17.0-36.9
37.0-56.9
57.0-76.9
77.0-96.9

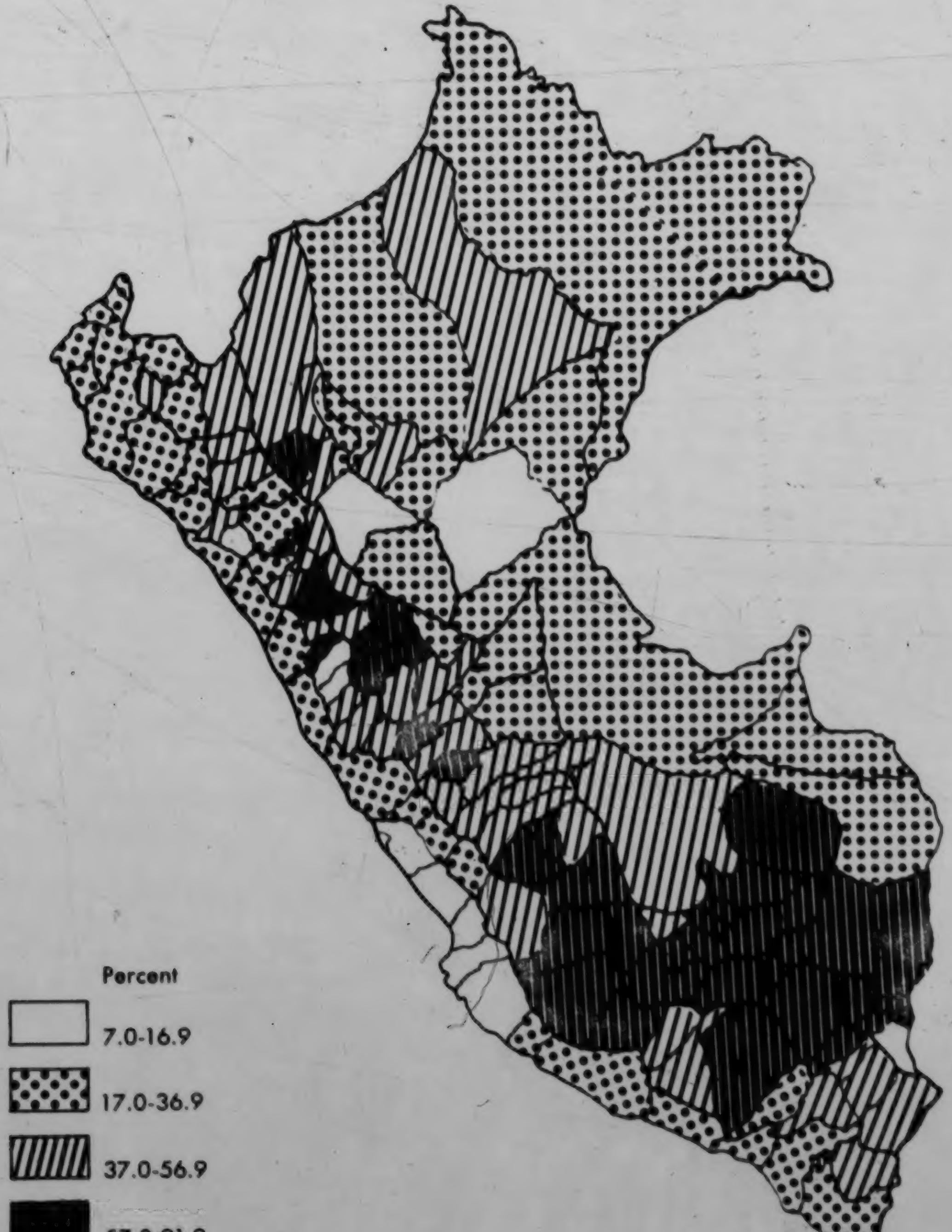
MAP 6

Percentage of rural male illiteracy, by Province, Peru.
Data from the Population census, 1961


Percent
7.0-16.9
17.0-36.9
37.0-56.9
57.0-81.9

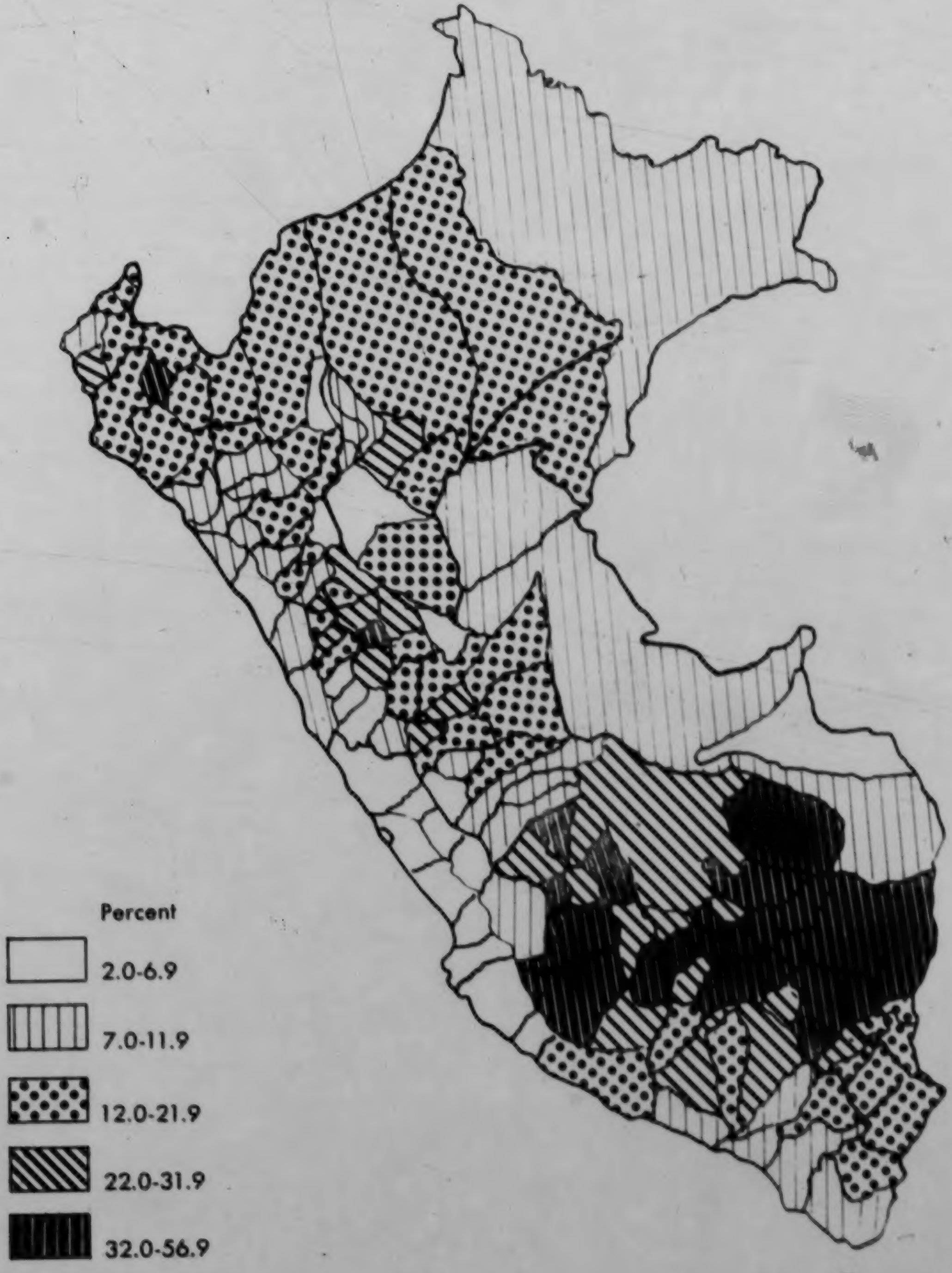
MAP 7

Percentage of urban female illiteracy, by Province, Peru.
Data from the Population census, 1961


Percent
7.0-16.9
17.0-36.9
37.0-56.9
57.0-91.9

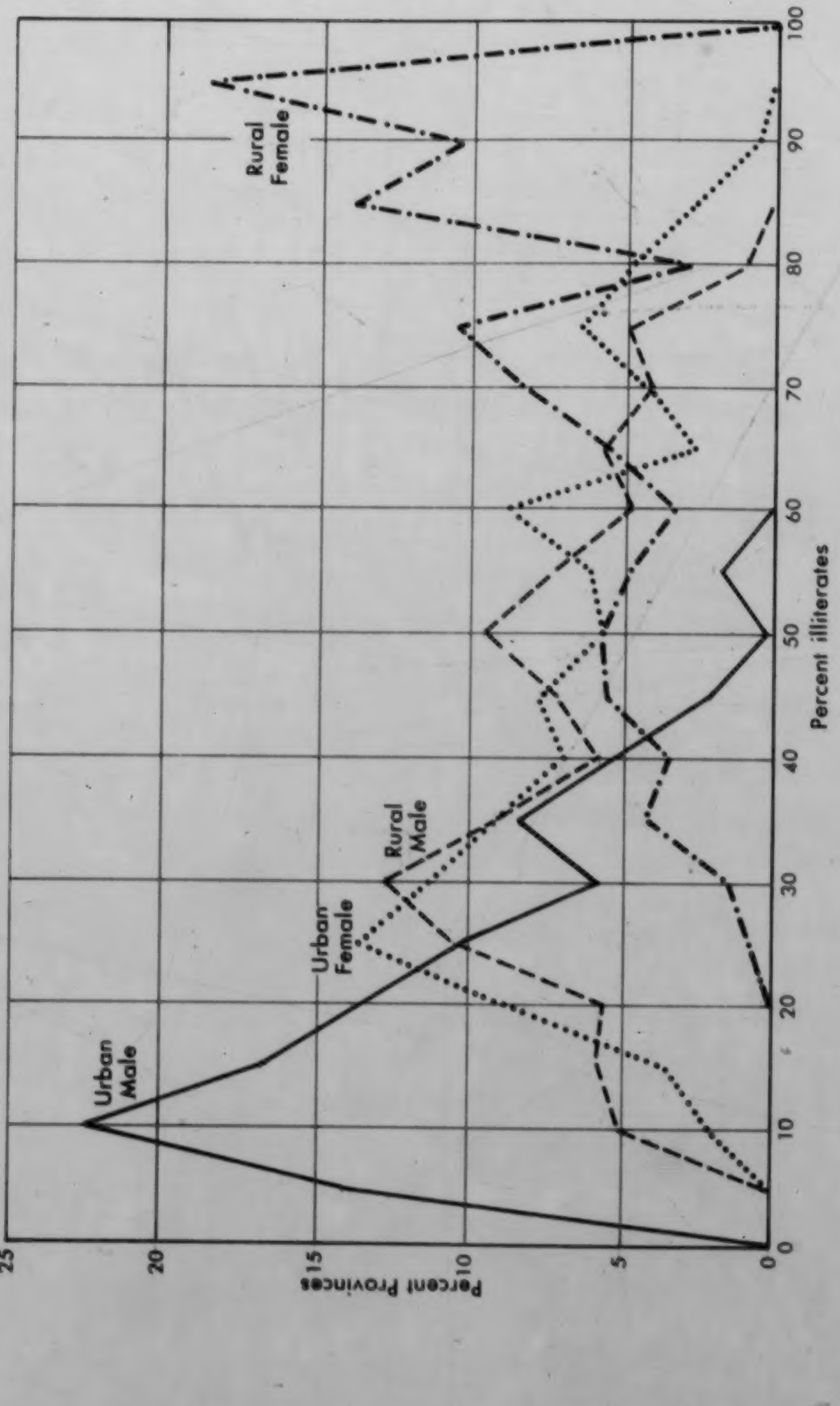
MAP 8

Percentage of urban male illiteracy, by Province, Peru.
Data from the Population census, 1961


Percent
2.0-6.9
7.0-11.9
12.0-21.9
22.0-31.9
32.0-56.9

GRAPH 1

Distribution of illiteracy in Peru, according to sex and urban-rural population.



The data are discriminated by province (the smallest censal unit in Peru), by urban-rural location, and by sex. This trivariate distribution of the data permit us to establish interesting conclusions which reinforce the line of argument and the hypothesis of this thesis; particularly in that referring to regional disequilibriums, and - in the special case of Peru - to cultural effects, in their impact on the role of sex in the educational structure.

Although in causal terms, the structural variable that explains illiteracy in Latin America is urbanization (the greater the urbanization, the lower the illiteracy rates), in the Peruvian case the interaction of the variable *sex* with *urbanization* acquires importance.

The extremes of illiteracy are represented by urban males, with the lowest rates, and by rural females, with the highest rates. The modal distribution of male urban illiteracy by province is 9.4 per cent, with a median of 10.5 per cent, while in rural females, the corresponding values are 94.4 per cent and 74.9 per cent respectively. The male distribution, as the values indicate, is more homogeneous than the female distribution.

The distribution of urban females and rural males is relatively similar, although the male distribution is somewhat more homogenous. There exists a variable that probably would help to discriminate the data for both sexes and for both regions in a more precise manner. This variable is *Level of Socio-Economic Development* of the province. Unfortunately, we do not have such information. At any rate, it could be hypothesized that the extreme values of illiteracy (highest and lowest) for both sexes, are closely related to the relative level of development reached by the province. That is, the greater the level of development, the lower the level of illiteracy.

Placing the various percentages of illiteracy for the provinces of Peru on a map permits us to specify the 'geography of illiteracy' in this country, which tends, as in the case of Argentina, and in the case of Latin America as a whole, to follow a quite important disposition. In Argentina, the greater concentrations of illiteracy are produced along the northern border. In Peru they are in the southern part of the sierra, which goes from Puno to Pasco and includes Cuzco, Apurimac, and part of Ayacucho.

The zones of high illiteracy are characterized by a predominance of the primary sector of the economy, with an archaic and unproductive agriculture, with immense latifundos, where the indigene constitutes the majority of the population subsisting still on a pre-monetary economy, economically exploited and politically marginalized. The agriculture and cattle of the region of the sierra is either for local or national consumption.

In the capital zones, generally having low illiteracy, especially in the departments of Lima and Ica, agriculture is efficient and diversified, mechanized and modern, with a salaried labour force in a sector that belongs directly to the monetary economy. In the latter, there exists diverse degrees of worker organization. But the most important characteristic which this region shares with the pampa zone in Argentina, is the fact that agriculture is principally an agriculture of export (sugar and cotton). Although the products of Argentinian agricultural export (wheat and meat) places that region in a more favourable position in terms of income until 1930, compared to the Peruvian export products, within Peru, this type of agricultural development in the fertile valleys of the coast has led to a social economy relatively more advanced than in the mining or agricultural regions.

The internal political boundaries then lose relevance with respect to the distribution of illiteracy. More important are the geo-economic and social environment, subregions which include extensive sections of national territory. The maps allow us to establish clearly an order of priority for any programme of schooling and alphabetization in Peru, as well as a first indication about the alternative strategies whereby it would be possible to attack the task, taking into consideration the local or regional conditions.

TABLE 35: PERU: DISTRIBUTION OF ILLITERACY IN 143 PROVINCES, ACCORDING TO URBAN-RURAL AREA AND SEX.

Percentage of Illiterates	Urban		Rural	
	Males	Females	Males	Females
2.0 a 6.9	13.3	-	-	-
7.0 a 11.9	22.4	2.1	4.9	-
12.0 a 16.9	16.8	3.5	5.6	-
17.0 a 21.9	13.3	8.4	5.6	-
22.0 a 26.9	10.5	13.3	10.4	0.7
27.0 a 31.9	5.6	5.6	12.5	1.4
32.0 a 36.9	8.4	9.1	9.7	4.2
37.0 a 41.9	5.6	7.0	5.6	3.5
42.0 a 46.9	2.1	7.7	6.9	5.6
47.0 a 51.9	-	5.6	10.4	5.6
52.0 a 56.9	2.1	7.0	7.6	4.9
57.0 a 61.9	-	9.1	4.9	3.5
62.0 a 66.9	-	2.8	5.6	6.3
67.0 a 71.9	-	4.2	4.2	8.3
72.0 a 76.9	-	6.3	4.9	10.4
77.0 a 81.9	-	4.9	1.4	2.8
82.0 a 86.9	-	2.8	-	13.9
87.0 a 91.9	-	0.7	-	10.4
92.0 a 96.9	-	-	-	18.8
	(143)	(143)	(144)	(144)

Source: National Population Census, 1961.

Callao is included as a province.

TABLE 36: PERU: URBAN AND RURAL ILLITERACY IN 17 YEAR OLDS AND OLDER, BY DEPARTMENT AND PROVINCE. IN PERCENTAGES

			Illiterates			
			Urban		Rural	
Jurisdiction	Urban	Rural	Males	Females	Males	Females
CALLAO	96.0	4.0	2.2	9.2	14.8	39.7
LIMA	86.3	13.7	2.9	12.7	14.2	41.7
Lima	96.7	3.3	2.7	11.6	21.4	47.3
Cajatambo	36.5	63.5	7.4	55.1	12.8	66.2
Canta	36.4	63.6	2.6	26.2	7.0	31.9
Canete	42.0	58.0	3.7	12.8	11.9	34.2
Chancay	48.0	52.0	6.6	19.9	16.1	39.8
Huarochiri	38.2	61.8	3.5	26.1	7.7	36.1
Yauyos	44.4	55.6	3.3	32.5	7.8	47.2
ICA	53.8	46.2	5.1	14.2	15.2	32.8
Ica	56.5	43.5	4.9	11.8	12.6	25.2
Chincha	38.5	61.5	4.4	15.5	9.8	32.9
Nazca	66.1	33.9	6.6	23.4	27.4	56.0
Pisco	62.1	37.9	4.8	12.2	22.4	43.8
TUMBES	60.5	39.5	15.0	20.5	26.4	37.8
Tumbes	64.4	35.6	14.7	20.2	27.0	39.7
C. Villar	39.4	60.6	14.5	20.5	24.0	31.7
Zarumilla	64.1	35.9	17.0	22.4	27.8	40.7
TACNA	69.6	30.4	10.3	28.1	28.9	63.6
Tacna	73.2	26.8	8.0	20.7	27.3	56.7
Tarata	59.1	40.9	21.0	53.2	33.1	74.3
AREQUIPA	64.5	35.5	9.9	28.4	24.3	56.3
Arequipa	77.6	22.4	7.2	21.4	15.0	34.4
Camana	50.5	49.5	11.8	22.2	16.8	32.7
Caraveli	44.5	55.5	13.0	27.5	20.4	50.5
Castilla	39.4	60.6	20.6	57.3	30.6	66.8

Table 36 (continued)

			Illiterates			
			Urban		Rural	
Jurisdiction	Urban	Rural	Males	Females	Males	Females
Caylloma	47.3	52.7	23.6	75.7	40.5	85.4
Condesuyos	36.7	63.3	23.1	56.8	32.5	72.9
Islay	68.6	31.4	8.9	19.6	16.3	37.6
La Union	32.3	67.7	19.5	54.7	43.8	85.2
MADRE DE DIOS	25.4	74.6	7.4	22.7	23.6	51.9
Tampopata	39.7	60.3	7.5	22.7	18.7	44.6
Manu	0.0	100.0	-	-	32.4	73.3
Tahuamanu	5.4	94.6	5.8	22.2	23.8	54.9
LAMBAYEQUE	61.8	38.2	12.2	24.9	35.9	63.3
Chiclayo	75.6	24.4	11.3	24.9	29.5	53.5
Ferrenafe	40.6	59.4	19.6	26.1	58.0	80.3
Lambayeque	40.6	59.4	13.3	24.1	34.3	64.7
SAN MARTIN	59.2	40.8	13.9	29.6	33.4	55.6
Moyobamba	84.0	16.0	7.9	22.9	19.2	40.2
Huallaga	43.7	52.3	5.8	16.6	23.0	43.2
Lamas	46.9	53.1	24.8	43.8	48.1	69.1
M. Caceres	53.6	46.4	13.2	25.2	30.0	51.0
Rioja	89.8	10.2	8.6	23.5	36.5	67.6
S. Martin	68.0	32.0	13.1	29.1	23.6	48.2
LORETO	38.6	61.4	8.8	21.9	32.6	58.9
Maynas	46.0	54.0	7.0	18.1	32.4	61.2
A. Amazonas	40.2	59.8	15.5	36.1	43.6	68.0
C. Portillo	46.3	53.7	7.3	18.6	31.3	52.3
Loreto	11.4	88.6	19.7	47.3	38.4	68.0
Requena	21.9	78.1	13.7	33.5	26.7	56.2
Ucayali	24.9	75.1	7.5	15.4	24.4	46.3
MOQUEGUA	47.7	52.3	10.4	31.7	28.8	71.4
M. Nieto	63.0	37.0	9.5	29.2	35.2	80.5
G.S. Cerro	22.0	88.0	15.8	42.2	24.3	64.2

Table 36 (Continued)

			Illiterates			
			Urban		Rural	
Jurisdiction	Urban	Rural	Males	Females	Males	Females
LA LIBERTAD	41.7	58.3	8.6	25.5	32.2	69.9
Trujillo	66.3	33.7	6.7	21.1	21.5	46.4
Bolivar	35.3	64.7	11.8	48.1	31.1	70.8
Huamachuco	14.1	85.9	18.3	45.8	53.7	90.2
Otuzco	12.1	87.9	7.6	35.8	24.0	68.9
Pacasmayo	65.6	34.4	9.5	20.7	23.8	46.4
Pataz	12.7	87.3	23.7	44.2	49.2	83.0
S. de Chuco	22.6	77.4	15.3	49.7	29.2	76.1
JUNIN	49.1	50.9	9.0	43.5	27.4	70.7
Huancayo	51.2	48.8	9.8	41.9	27.5	72.1
Concepcion	37.2	62.8	11.7	51.2	31.3	76.8
Jauja	55.7	44.3	9.0	43.1	23.7	63.9
Junin	44.6	55.4	17.2	69.1	40.6	83.3
Tarma	36.1	63.9	9.4	40.1	30.1	60.7
Yauli	68.7	31.3	4.1	39.9	10.5	58.7
AMAZONAS	38.8	61.2	15.5	46.6	32.0	67.3
Chachapoyas	52.1	47.9	12.3	43.0	24.0	65.1
Bagua	21.3	78.7	18.6	44.1	39.0	76.5
Bongara	71.3	28.7	6.1	32.3	7.3	34.0
Luya	43.6	56.4	20.5	58.9	33.3	70.3
Mendoza	26.7	73.3	8.3	28.0	17.5	47.9
PIURA	44.5	55.5	17.9	30.3	48.5	74.7
Piura	58.0	42.0	16.3	31.5	48.0	80.9
Ayabaca	7.2	92.8	15.8	24.3	49.2	73.2
Huancabamba	7.6	92.4	13.6	25.8	51.5	83.0
Morropon	28.8	71.2	34.1	42.8	48.2	70.9
Paita	56.1	43.9	22.7	33.8	47.3	64.7
Sullana	63.1	36.9	21.0	32.2	45.5	62.1
Talara	95.9	4.1	8.7	19.3	24.5	46.7

Table 36 (Continued)

Jurisdiction	Urban	Rural	Illiterates: Urban Males	Illiterates: Urban Females	Illiterates: Rural Males	Illiterates: Rural Females
PASCO	35.4	64.6	18.8	60.4	33.0	75.2
Pasco	38.3	61.7	13.9	56.2	26.1	72.4
D. Carrion	40.7	59.3	30.5	76.1	39.8	86.8
Oxapampa	18.3	81.7	18.6	36.9	42.5	68.2
ANCASH	33.2	66.8	11.8	39.3	46.7	80.9
Huaraz	34.1	65.9	14.0	36.5	43.9	83.3
Aija	38.3	61.7	5.3	24.1	15.2	50.7
Bolognesi	43.7	56.3	5.4	40.4	13.5	57.2
Carhuaz	20.6	70.4	26.3	58.5	65.4	91.1
Casma	46.3	53.7	8.5	21.8	32.4	57.3
Corongo	55.4	44.6	23.0	58.0	50.7	83.9
Huari	16.5	83.5	23.4	58.2	56.9	89.7
Huaylas	21.3	78.7	13.5	37.4	44.2	75.3
M. Lurzuriaga	8.8	91.2	41.6	68.1	67.9	92.0
Pallasca	44.9	55.1	11.0	60.8	27.9	75.2
Pomabamba	14.4	85.6	31.1	49.6	72.6	92.0
Recuay	28.0	78.0	5.3	45.3	17.5	65.8
Santa	66.4	33.6	7.0	27.3	27.4	57.4
Sihuas	14.8	85.2	22.0	57.5	53.6	88.7
Yungay	16.8	83.2	16.3	33.5	65.1	85.1
CAJAMARCA	14.9	85.1	12.7	33.9	37.7	80.7
Cajamarca	19.3	80.7	12.1	30.4	43.5	84.8
Cajabamba	14.6	85.4	14.5	37.0	42.9	81.0
Celendin	19.2	80.8	9.0	30.2	35.2	75.4
Contumaza	24.0	76.0	7.3	20.1	20.8	50.4
Cutervo	10.4	89.6	15.3	43.3	41.7	85.0
Chota	12.0	88.0	11.4	38.5	33.7	83.8
Hualgayoc	9.5	90.5	11.2	39.6	36.7	83.7

Table 36 (Continued)

Jurisdiction	Urban	Rural	Illiterates Urban Males	 Females	 Rural Males	 Females
Jaen	16.9	83.1	19.6	40.8	38.3	75.0
Santa Cruz	9.9	90.1	7.9	32.4	28.9	74.6
HUANUCO	21.2	78.8	17.3	43.5	45.8	80.2
Huanuco	33.5	66.5	15.4	36.4	65.5	89.8
Ambo	17.7	82.3	25.7	51.8	49.7	85.6
2 de Mayo	15.8	84.2	17.0	49.6	29.1	71.7
Huamalies	23.1	76.9	21.7	60.0	32.5	72.7
Maranon	7.3	92.7	33.3	61.9	54.7	91.2
Pachitez	10.4	89.6	16.8	36.4	54.8	86.5
L. Prado	24.2	75.8	9.3	23.6	34.8	52.5
AYACUCHO	25.3	74.7	32.2	68.2	63.2	91.8
Huamanga	39.6	60.4	26.9	59.5	74.4	94.7
Cangallo	12.6	87.4	44.0	82.0	63.8	95.9
Huanta	13.5	86.5	22.8	52.6	71.6	93.6
La Mar	8.1	91.9	40.6	68.1	76.2	95.5
Lucanas	33.8	66.2	35.7	69.7	44.5	82.0
Parinacoc.	28.2	71.8	26.1	59.1	56.1	86.2
V. Fajardo	40.8	59.2	34.9	83.1	45.2	91.6
PUNO	18.1	81.9	25.7	62.6	49.2	88.7
Puno	23.6	76.4	18.0	49.6	47.3	88.0
Azangaro	12.9	87.1	40.6	77.6	52.2	90.0
Carabaya	22.9	77.1	38.7	80.0	55.2	94.0
Chucuito	9.6	90.4	18.5	56.5	49.2	88.6
Huancane	8.0	92.0	20.7	59.0	48.0	86.4
Lampa	20.1	79.9	29.0	69.8	41.8	83.9
Melgar	30.0	70.0	34.6	73.4	57.3	92.3
Sandia	19.5	80.5	35.7	72.2	49.2	89.9
San Roman	48.6	51.4	18.4	56.0	51.1	88.2

Table 36 (Continued)

			Illiterates			
			Urban		Rural	
Jurisdiction	Urban	Rural	Males	Females	Males	Females
CUZCO	32.4	67.6	26.1	56.3	64.8	93.1
Cuzco	92.3	7.7	14.1	37.3	73.4	94.2
Acomayo	30.9	69.1	55.2	89.0	65.3	94.9
Anta	22.8	77.2	40.8	74.1	65.6	92.3
Calca	20.5	79.5	32.8	62.6	74.5	93.0
Canas	12.7	87.3	32.1	79.9	58.9	95.4
Canchis	30.7	69.3	33.8	67.5	60.9	94.7
Chumbivilcas	10.1	89.9	43.8	79.5	69.8	96.3
Espinar	15.2	84.8	27.9	74.9	52.7	94.1
La Convenc.	17.0	83.0	26.4	55.6	55.2	83.1
Paruro	21.7	78.3	53.9	85.8	74.9	96.5
Paucartambo	11.2	88.8	37.5	60.8	77.7	95.2
Quispican.	23.3	76.7	36.1	66.5	66.5	93.3
Urubamba	36.4	63.6	24.6	63.3	60.5	90.4
HUANCAVELICA	19.1	80.9	32.5	70.0	58.5	89.2
Huancavelica	27.1	72.9	27.7	67.1	60.2	92.2
Acobamba	17.1	82.9	34.9	73.6	66.6	94.2
Angaraes	24.2	75.8	52.3	84.4	70.5	95.2
Castrovirr.	14.1	85.9	10.7	45.2	25.2	70.8
Tayacaja	14.8	85.2	37.6	74.8	68.0	93.0
APURIMAC	19.8	80.2	32.7	70.6	69.6	94.5
Abancay	29.5	70.5	28.5	54.2	70.8	93.3
Andahuaylas	12.2	87.8	31.2	66.7	73.4	95.7
Antabamba	37.9	63.1	30.3	81.2	51.7	90.2
Aymaraes	26.4	73.6	32.3	74.9	59.8	92.5
Cotabambas	12.7	87.3	43.9	80.5	77.6	96.1
Grau	28.2	71.8	37.0	81.6	55.4	91.6

3. MEXICO

Approximately 85 per cent of the Mexican territory is mountainous. This fact is of extreme importance in understanding the distribution of illiteracy in the country, since the accidents of geography become one of the principal determinants of economic, political, and social activity. In a country which not more than a decade ago had most of its economically-active population in the agricultural sector, a number of factors are of decisive importance for explaining the state of general backwardness of education, even though the right and obligation of every citizen to attend school was legislated more than 100 years ago. These factors include the distribution of cultiviable land, the final destination of the product (for exportation, for local or national consumption, or for subsistence); and the relative degree of communication with national decision-making centres.

We are not resorting to geographical determinism. Rather we are recognizing the importance that geography has in a country of such complex characteristics as Mexico. Further on, analysing the illiteracy distribution on the municipal level, we will detail the influence of this variable, specifying some hypotheses about the effects of the interaction between geography, economic activities, the system of communication with the centres of decision, the degree of isolation of the communities, the ethnic composition. These are the social and political variables that explain the relative levels of advance or backwardness of various sub-regions in relation to the national average.

As with the earlier analyses, we will start off on the level of macro-units, then go the the micro-unit level. That is, we will first detail the national characteristics, then break down the analysis to the state and the municipal levels.

1. The Country

With a national illiteracy rate of 23.7 per cent in 1970, Mexico in relation to Latin America appears as a country with average illiteracy rates.

The structural changes produced in Mexico in the last four decades, have given place to a series of transformations in the school enrollment and consequently in the illiteracy rates. Although from the purely statistical point of view, it can be affirmed that an important degree of progress exists in the incorporation of 6 to 14 year-old children into the school system, this progress, at least until 1970, has been slow, unequal, and a product more of structural transformation - particularly an increase in the rates of urbanisation and changes in the composition of the labour force - than of effective and congruent policies of the national authorities with the goal of assuring a relatively equal access of the various sectors of the population.(26)

From the point of view of educational legislation in the Mexican nation, the constitution of 1857 and the regulatory law of 1867 affirmed the principle that "teaching would be obligatory, free and lay". In spite of this, until 1910 educational resources were concentrated exclusively in large urban centres, principally for the benefit of the privileged classes. Since the Revolution, some legal dispositions were formulated whose manifest aim was the implementation of the expansion of the formal educational system towards areas which until then had not been attended, that is, the rural sectors on the whole, and the urban areas occupied by the less-favoured social sectors.

In 1917, the Constituyentes National Congress reaffirmed Article 3 of the constitution in which the principle was sustained that education should be lay, obligatory, and free. The most controversial part of the Article, which still arouses resistance, was that concerning the principle of lay education.

Regarding the effective implementation of the law, it was not until 1921 with Jose Vasconcelos, that the Ministry of Public Education was created, and began to implement a plan of primary education for rural areas, with specialized teachers called "missionaries". The ideology of the system was liberal and the educational philosophy was based on John Dewey's principles of "active education".(27) Soon after these educational missions were intiated, there were some 100 local missionaries and some 100 federal rural schools. The local teachers, guided by the missionaries, provided basic and elemental education, trying to integrate the school into the community. The relative success or failure of the educational programme of the missions depended on the teacher as an individual, as the great majority of them were insufficiently prepared.(28)

In spite of its limitations, Vasconcelos' programme seems to have had considerable success. From the purely statistical point of view, in 1921 rural schools were practically nonexistent, while in 1931, there were some 6,830 of these schools, with 425,000 students.

The limitations of the cultural missions were contained less in the ideology of the programme than in the integration between this and the actual reality in which it operated. The cultural missions represented in Mexico the most significant organised force in the educational history of the country; their repercussions were quite significant in the rural areas. But the limits of their success were imposed by the fact that the ambitious social project of the revolution was not accompanied by significant transformations in the economic and social sphere.

The educational changes which followed the era of Vasconcelos followed the rhythm of the Mexican political process. The radicalization of the ideology of the system was attempted, but in the long run the effects were paradoxical. The socialist ideas of the educational reform of the 1930's, which proposed a rural school more integrated to the community, with greater political and economic meaning and with a more dynamic and radical criteria of social transformation, aroused a more organised and violent reaction from the conservative groups (particularly clerical). Although by Congressional decree, the school was labelled socialist, and the number of schools rose during the government of Cardenas (from 7,531 in 1933 to 12,208 in 1939), the resistance spread from the conservative groups to liberal groups and finally to the people themselves. The already small number of teachers qualified to take on the socialist rennovation, was diminishing due to the attempts to "purge" the system of its "conservative" elements. The socialism of the school was mostly anticlericism, thus generating a series of unnecessary conflicts that degenerated into a series of hostilities towards the teachers and towards the state or fiscal school.

The socialist school was abandoned in practice in 1941 and by law in 1946. Its trajectory left a series of positive elements in terms of the political consciousness of some groups. However, the roots of its failure have the same origins as that of the liveral philosophy of Vasconcelos' missions: the expectation that the socialist school could produce transcendental transformations in an external environment predominantly pre-capitalist and capitalist. The social and economic transformations of Mexico were produced in an environment where, although the rhetoric was socialist, the real framework was that of bourgeous capitalism. It was illusory, therefore, to expect the school to be able to evolve separately from this system, and even in open opposition to it. Revolutionary transformations in the educational system were being sought when the environment was hardly prepared even for some reforms. The immediate consequence was to unite the opposition, and in some way to reverse the educational progress. For the reforms that had been imposed were lost during and after the 1940's in the return to a pre-liberal system. This reversal consequently left the Mexican rural school well below the enthusiasm and accomplishments achieved by both the missionary schools and the socialist schools. Later transformations in the educational system of Mexico obeyed more the pressures of demand than the rennovating impulse of the state and the projects for achieving a more equalitarian society.

The relative suspension of Mexico's educational situation finds its dynamic explanation in this series of political factors that substantially set back educational advance in the country.

It is important to point out here the relationship between this phenomenon of retardation, and the resistances offered by conservative groups to what could be called "attempts at revolutionary transformation of the educational system", in situations where the dominant social, poltical and economic environment is reactive. In this case - quite similar to the Chilean case of the National Unified School(29) - the results, rather than producing some progress in the situation, was not only retardation in educational material but also in the greater sphere of political relationships.

The conservative campaigns resisting change in the Mexican educational system, were principally concentrated in the states of Jalisco and Nuevo Leon, especially in the former. The language utilised was identical in content and expression to that which appeared in Chile, Furthermore, this language has not changed over time, being similar in content to that which appeared in the 19th century and at the beginning of the 20th century, particularly as a resistence to the transformations produced during the Vasconcelos era, and above all during the socialist reform.

Mexico in 1970 continued presenting census illiteracy rates of around 24 per cent. The educational supply is principally restricted to urban centres where schooling has existential significance and where the demand for more education is growing.

Similarly to the cases of Argentina and Peru, the advance of the system is strongly associated with infrastructural factors, principally urbanization and the structure of the production system. As will be seen later on, Mexico clearly represents a socio-cultural system in which the pressures of an infra-structural and political type determine principally the interplay of the supply and demand for different levels of education. To the extent that we have census information on the municipal level, it is possible to detail in a more specific way the regional characteristics of the country. The distribution of illiteracy in Mexico indicates - exactly as in the case of Argentina and Peru - that we are dealing with distributions where geo-ecological and geo-cultural factors are operating "above" the political divisions that separate the different states and even the different nations.

ii. The States

The national rate of illiteracy tends to hide the differences that are produced on the level of states or federative entities. In terms of amplitude of the distribution of the percentages of population that are illiterate, the rates vary from 9.1 per cent in the Federal District to 44.6 per cent in the state of Guerrero.

Table 37 summarizes, for each state, characteristics referring to illiteracy, employment, urbanization, idigenous population, and type of footwear used by the 1-year and over population. All the data have been calculated on the bases of the 1970 General Population Census, utilizing for each one of the categories the corresponding censal definitions.

We will begin the analysis on the state level, starting off with a simple description of the illiteracy distribution, and then establishing the relationships between the infrastructural data that appear in the table and the illiteracy rates.

From the data it is possible to classify four regions, calculated on the bases of 'natural' cuts in the percentual distribution of illiteracy by state, as appear in Table 37:

a. Very high illiteracy region (more than 40 per cent of the population), located in the south-western zone of the country and including the adjacent states of Chiapas, Oaxaca and Guerrero;

b. High illiteracy region (33.2 per cent to 37.9 per cent) that includes the adjacent states of Queretaro, Guanajuato, Michoacan, and Puebla, and that is integrated with the very high illiteracy region, forming an arch around the centre of influence of the Federal District.

c. Medium illiteracy region (18.8 - 29.4 per cent) composed of four sectors or blocks of states, located in the extreme south-east (Yucatan, Quintana Roo, Campeche, and Tabasco) and the centre (Mexico, Morelia, Tlaxcala), and north-west (sinaloa, Nayarit, Zacatecas, Jalisco, and Colima).

Table [illegible] [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Primary	Second.	Tertiary	Per Cent of total	Absol. No.	Urban	Rural
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9.1	441,615	8.9	15.3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10.7	122,612	8.6	17.6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11.8	[illegible]	11.0	16.2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.6	[illegible]	9.5	15.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.6	[illegible]	10.0	19.2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.9	[illegible]	8.8	21.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13.6	[illegible]	9.9	20.9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.3	[illegible]	11.9	19.9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.3	[illegible]	9.5	17.9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.7	[illegible]	13.5	16.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18.8	[illegible]	13.8	21.1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19.4	[illegible]	15.0	29.6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19.9	31,071	18.0	26.3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21.3	[illegible]	14.3	27.9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21.5	77,133	11.4	26.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22.8	[illegible]	18.2	31.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23.3	65,137	22.4	26.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23.8	[illegible]	15.2	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23.8	[illegible]	10.3	31.1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24.9	[illegible]	19.1	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25.4	[illegible]	23.1	31.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27.2	[illegible]	20.3	37.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.9	37.2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29.4	[illegible]	19.5	38.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	33.2	[illegible]	22.4	43.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	33.8	[illegible]	21.3	41.3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	35.3	[illegible]	23.7	48.3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37.0	[illegible]	19.2	48.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37.0	[illegible]	18.0	45.5
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30.7	44.3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	43.3	[illegible]	[illegible]	50.1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20.0	[illegible]
[illegible]											[illegible]	[illegible]	[illegible]	[illegible]

TABLE [illegible]: MEXICO: MATRIX OF INTERCORRELATIONS

	1	2	Var 1	3	4	5	6	7
	Per cent of pop's using "huaraches"	Per cent of pop's using barefoot	Per cent of pop's using huaraches or going barefoot	Per cent of total pop's that is indigenous	Per cent of indigenous pop's speaking Spanish	Urbanization less than 500 inhab's	Urbanization 2500 or + inhab's	Urbanization 20,000 or + inhab's
1 Per cent of pop's using "huaraches"	1.000	.108 .448	.848 .807	.392 .412	-.238 -.243	.261 .335	-.409 -.471	.475 .542
2 Per cent of pop's going barefoot		1.000	.719 .748	.385 .751	-.112 .011	.317 .352	-.698 -.766	.624 .813
Var 1 Per cent of pop's using "huaraches or going barefoot			1.000	.405 .578	-.280 -.182	.376 .373	-.457 -.466	.709 -.737
3 Per cent of total pop's that is indigenous				1.000	.081 .050	.195 .187	-.360 -.557	-.357 -.711
4 Per cent of indigenous population speaking Spanish					1.000	-.336 -.407	.408 .365	.177 .172
5 Urbanization: less than 500 inhab's.						1.000	-.830 -.797	-.462 -.410
6 Urbanization: 2500 or more inhab's.							1.000	.847 .807
7 Urbanization: 20,000 or + inhab's.								1.000
8 Per cent employed in primary sector								
9 Per cent employed in secondary sector								
10 Per cent employed in tertiary sector								
Var 2 Per cent employed in secondary & tertiary sector								
11 Per cent of pop's illiterate								
12 Per cent of urban pop's illiterate								
13 Per cent of rural pop's illiterate								

		8	9	10	Var 2	11	12	13
		Per cent employed in primary sector	Per cent employed in sec'ary sector	Per cent employed in tertiary sect.	Per cent employed in sec'y & tertiary sect.	Per cent of population illiterate	Per cent of urban pop's illiterate	Per cent of rural pop's illiterate
1	Per cent of pop's using "huaraches"	.573 .526	-.405 [illegible]	[illegible] -.540	-.582 -.426	.542 .433	.535 .500	.483 .436
2	Per cent of pop's going barefoot	.606 .726	-.609 -.615	[illegible] -.739	[illegible] -.726	.419 .780	.510 .490	.526 .715
Var 1	Per cent of pop's using "huaraches or going barefoot	.788 .775	-.733 -.703	-.717 -.711	-.789 -.775	.746 .756	.703 [illegible]	.642 .780
3	Per cent of total pop's that is indigenous	.606 .710	-.607 [illegible]	-.350 -.371	-.482 -.610	.606 .675	.336 .518	.665 .647
6	Per cent of indigenous population speaking Spanish	-.373 -.366	.319 .293	[illegible] .380	.376 .366	-.256 -.153	-.167 -.058	-.202 -.155
5	Urbanization: less than 500 inhab's.	[illegible] .580	[illegible] -.590	-.580 -.588	[illegible] -.588	.655 .607	.153 .100	.606 .385
4	Urbanization: 2500 or more inhab's.	-.892 -.871	.735 .716	.870 [illegible]	.892 .871	-.722 -.717	-.502 -.480	-.633 -.665
7	Urbanization: 20,000 or + inhab's.	-.866 -.833	.625 .622	.881 .882	.866 .833	[illegible] -.726	-.457 -.449	-.622 -.620
8	Per cent employed in primary sector	1.000	-.086 -.058	-.942 -.931	-1.000 -1.000	.705 .722	.418 .418	.651 .639
9	Per cent employed in secondary sector		1.000	[illegible] [illegible]	.086 .058	-.526 -.515	-.442 -.397	-.428 -.450
10	Per cent employed in tertiary sector			1.000	.941 .931	-.797 -.796	-.732 -.726	-.719 -.723
Var 2	Per cent employed in secondary & tertiary sector				1.000	-.706 -.721	[illegible] [illegible]	-.651 -.639
11	Per cent of pop's illiterate					1.000	.892 .902	.976 .977
12	Per cent of urban pop's illiterate						1.000	.837 .868
13	Per cent of rural pop's illiterate							1.000

d. Low illiteracy region (9.1 to 14.7 per cent) that includes all the northern states on the border of the United States (Lower California, Sonora, Chihuahua, Coahuila, Nuevo Leon and Tamaulipas) as well as the Territories of Lower California and the states of Durango, Aguascalientes and the Federal District.

It can be clearly seen in the data that with the exception of the Federal District, the 14 states with lower illiteracy rates (all below the national average) are located in the north of the country. At the same time, it can be noted that the highest illiteracy rates are located on the south-west coast and in the central-east region. The data on a municipal level will permit a better definition of the various eco-systems that seem to configurate the illiteracy distribution in Mexico.

The ecological characteristics of the illiteracy distribution by state do not change significantly when the percentages of illiteracy are discriminated according to rural or urban type of locality. For the urban population, the total amplitude of the illiteracy distribution by state is quite low (8.6 per cent in Nuevo Leon to a maximum 30.7 per cent in Oaxaca). The zones of low influence on illiteracy continue to be located in the north of the Republic, and those of high influence in the south-western coast and in the mountainous belt surrounding the Federal District. For the rural population, the total amplitude increases (from a minimum of 15.3 per cent in the Federal District to a maximum of 54.2 per cent in Guerrero).

The influence of the system of production in the rural regions is more marked, the illiteracy rates reaching very high levels. The correlation between Maps 9 and 10 is very close, in general maintaining the zones of high and low illiteracy. The contrast between the country and the city appears in its full magnitude, particularly in the more backward regions of Mexico.

iii. Illiteracy and Structural Factors

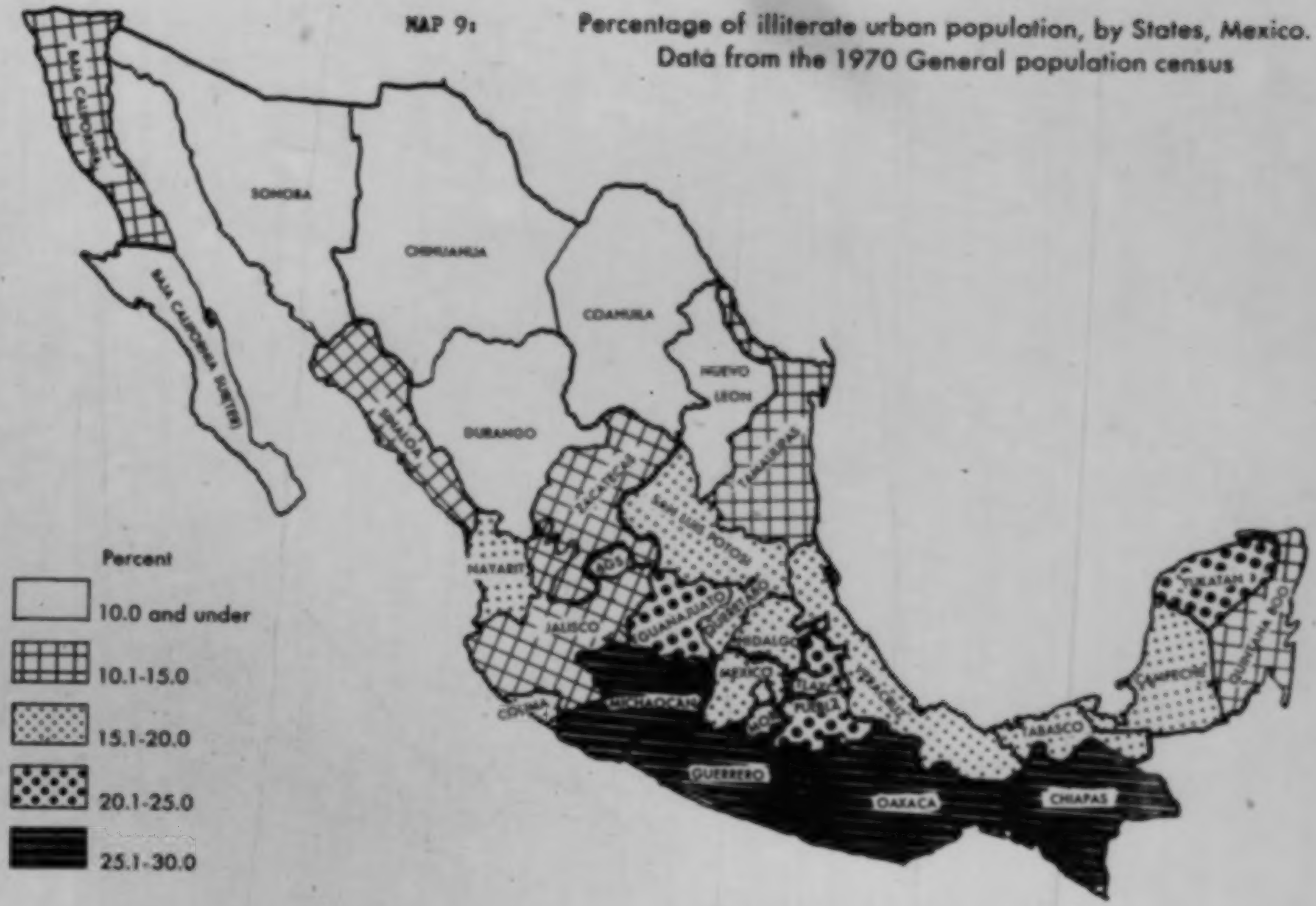
Table 37 pointed out some data of importance for the determination of the more significant structural characteristeristics that explain the distribution of illiteracy in Mexico. Table 38 represents the matrix of intercorrelations for the data appearing in Table 37. From this matrix, we are principally interested in the data in the last three columns, which represent our dependent variables: total illiteracy, rural illiteracy, and urban illiteracy.

All the variables that appear in the table are closely intercorrelated, particularly with our dependent variables.

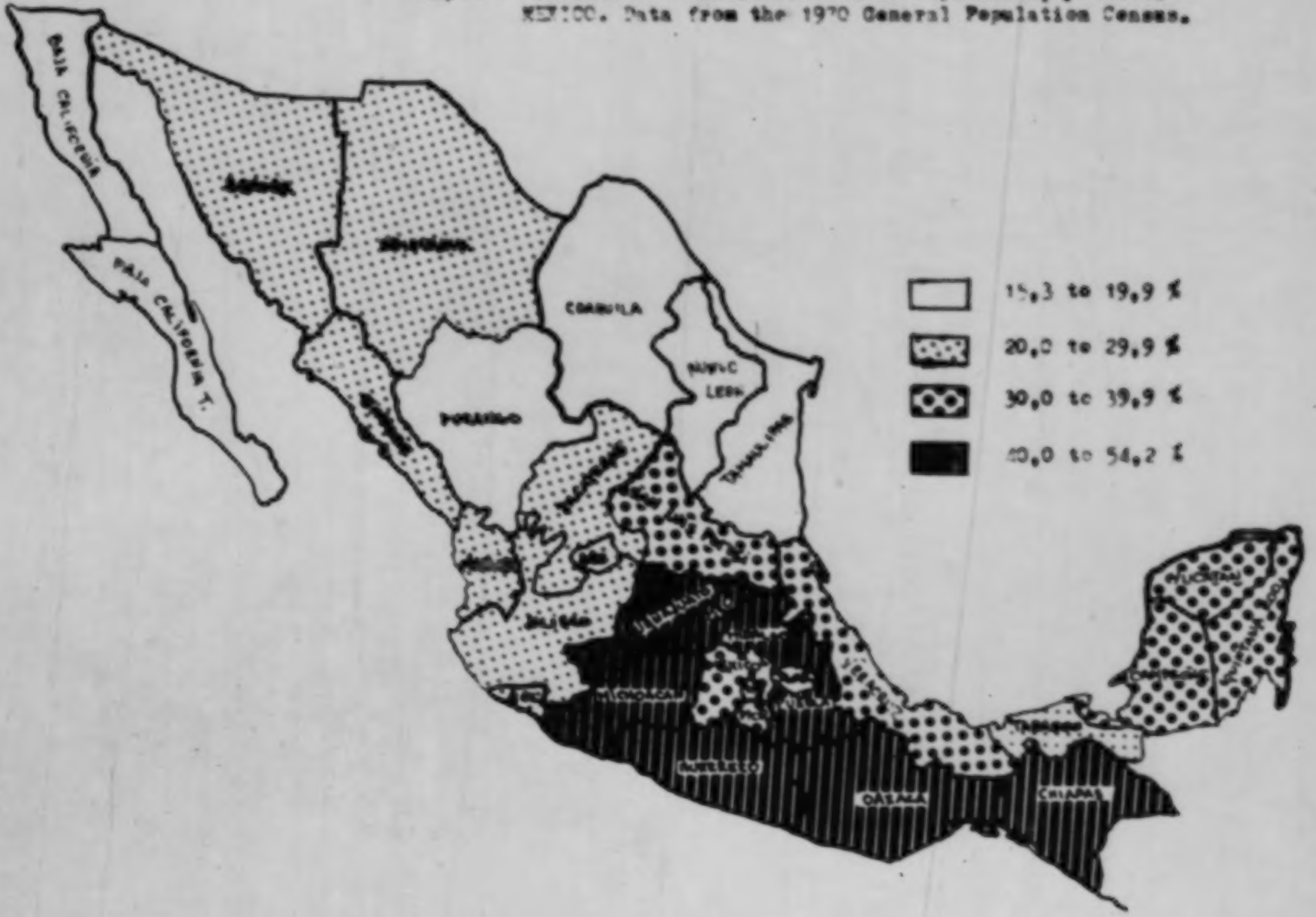
The most important explicative variables are the composition of the labour force and the degree of urbanization, as well as the percentage of the 1 year-olds and older that go barefoot or use "huaraches" (native sandals).

The percentage of population employed in the tertiary sector of the economy is negatively correlated with illiteracy (the greater the employment in thetertiary sector, the lower the percentage of population that is illiterate). As a predictive variable, employment in the tertiary

MAP 9: Percentage of illiterate urban population, by States, Mexico.
Data from the 1970 General population census


BAJA CALIFORNIA
BAJA CALIFORNIA SUR(TER)
SONORA
CHIHUAHUA
COAHUILA
NUEVO LEON
DURANGO
SINALOA
TAMAULIPAS
ZACATECAS
SAN LUIS POTOSI
NAYARIT
AGS
JALISCO
GUANAJUATO
QUERETARO
HIDALGO
MEXICO
TLAX
PUEBLA
MOR
VERACRUZ
COLIMA
MICHOACAN
GUERRERO
OAXACA
CHIAPAS
TABASCO
CAMPECHE
YUCATAN
QUINTANA ROO
Percent
10.0 and under
10.1-15.0
15.1-20.0
20.1-25.0
25.1-30.0

Map 10: Percentage of Illiterate Rural Population, by State.
MEXICO. Data from the 1970 General Population Census.


BAJA CALIFORNIA
BAJA CALIFORNIA T.
COAHUILA
NUEVO LEON
DURANGO
TAMAULIPAS
JALISCO
MICHOACAN
VERACRUZ
GUERRERO
OAXACA
TABASCO
CHIAPAS
YUCATAN
CAMPECHE
QUINTANA ROO
15,3 to 19,9 %
20,0 to 29,9 %
30,0 to 39,9 %
40,0 to 54,2 %

sector explains 63.5 per cent of the total variance in illiteracy when this is discriminated by states, the explicative weight of this variable coming to be so important that, when we use multiple regression with four predictive variables (see Table 39), the predictive efficiency only increases to 67.7 per cent of the explained variance.

The fact that employment in the tertiary sector of the economy is more strongly correlated with illiteracy than is employment in the primary and secondary sectors, has already been observed earlier in the cases of Argentina and Peru. Here, relationships between the tertiarization of the economy and urbanization are intermixed with aspects relative to the importance of schooling for the occupation of positions in the sector, with psychosocial aspects of social prestige, and with what we would call the 'demonstration effect' of the urban modes of life associated with the professions in the services branch. The causal chain that connects these different explicative variables is complex, given the special characteristics of the patterns of change in the employment composition, such as we noted in Chapter II. Observing Tables 40 and 41, which show the distribution of illiteracy in two states with very high illiteracy rates (Chiapas and Oaxaca), it can be seen that the labour force in the tertiary sector is systematically more important proportionally than employment in the secondary sector, even in regions where the greater proportion of the labour force is employed in the primary sector.

Access to the educational system in Mexico appears to be regulated by a mechanism of supply and demand, very similar to that which operates in free enterprise economies. The educational supply - in this case, primary schools - does not operate freely but rather is conditioned by other explicative factors of a higher level, that have to do with the importance of the productive sector on the national and international level, and with historical-political aspects of power distribution.

The more retarded zones of Mexico appear physically and politically isolated from the national nuclei and centres of power. On this level, it could be said that in terms of national integration, many of the regions of the south-west and of the central mountainous regions, represent zones which in 1970 had not achieved such integration into the national political unit. Although territorial integrity was established by wars of liberation and the political stability of Mexico has been consolidated since the 1930's, in socio-cultural terms, the formation of the Mexican nation does not seem to be complete, but simply to be a system where there is a degree of hegemony and participation in some regions, while in others, isolation and a tremendous physical inequality with respect to the political and financial hegemonic centres.

The South American version of 'caudillos' in Mexico are the 'caciques', the majority of whom fulfill counterrevolutionary roles and whom exploit for personal benefit the situation of isolation. They therefore oppose the introduction of teachers, who, together with the priests, are the only type of professionals that operate in these isolated regions. In a socio-political system where the pressures from the centralised nuclei of the educational system to provide schooling is seen from the statistical point of view, and where the community exercises little or no control over the school, there are zones almost totally marginalized in terms of school services, perpetuating the local systems of exploitation of peasants.

It is, then, undoubtable that the highest illiteracy rates will be found in the rural sector, where employment is almost exclusively concentrated in the primary sector of the economy. But is would be an error to assume that the persistence of illiteracy is due to purely cultural patterns generating an accentuated traditionalism, making the peasants resistent to sending their children to school. Neither are the economic functions that children have in rural labour strictly valid as explanations. The work unit in the country is the family, and in this the school-age children play a role which has been interpreted as one of the most important variables in explaining the resistence of the parents to sending children to school. But when family aspirations for children are analysed in some detail in Chapter XIII, and when it is seen that the first thing that retarded communities (indigenous and peasant) request from federal authorities is precisely schools for their children, there exists a paradox that is necessary to clarify.

In terms of sectorial composition of the labour force, the correlation between employment in the primary sector of the economy and illiteracy rate is quite strong (.745). That is to say, employment in the primary sector "explains" 55.5 per cent of the variation in illiteracy by state; at least 45 per cent of the dependent variable remains to be explained.

On analysing illiteracy by municipality, more evidence appears that permits a greater determination of the influence of the primary sector of the economy, when factors are taken into account that are tied to the existence of fertile land, irrigation systems, roads, final destiny of production, and type of land exploitation.

Tables 38 and 39 permit us to analyse a very important aspect in the determination of the differential rates of illiteracy in the country: the indigenous population.

To being with, it can be observed that the correlation between Percentage of the population that is indigenous and percentages of illiteracy is positive and not very high (.425), since it explains 18 per cent of the variation in illiteracy on the state level.

Many of the traditional arguments blamed the indigenous population itself for the high illiteracy rates found among them. Such arguments mention cultural resistance to the imposition of white or western values, the traditionalism of the indigenes, and, in general, the antisecular composition of the indigenous culture.

Our analyses permit us to incorporate more complex elements. The censal definitions, as we have expressed numerous times, leave something to be desired with regard to their precision. A further difficulty for the proof of the hypothesis lies in the fact that the census charts do not discriminate sufficiently enough to undertake cross-tabulations, separating for example indigenous from non-indigenous in the rates.

TABLE 39: PARTIAL CORRELATIONS OF MULTIPLE REGRESSIONS, WITH DATA EXTRACTED FROM TABLE 37.

PARTIAL CORRELATIONS

1. Dependent variable: Illiteracy total
   Independent variable: Employment in Primary Sector
   Control variable: Percentage of Pop'n Indigenous

$$r_{(P)\,(A)\cdot(I)} = .689$$

2. Dependent variable: Illiteracy total
   Independent variable: Percentage of Pop'n Indigenous
   Control variable: Employment in Primary Sector

$$r_{(P)\,(A)\cdot(I)} = .179$$

3. Dependent variable: Illiteracy total
   Independent variable: Employment in Primary Sector
   Control variable: Urbanization (2500 +)

$$r_{(P)\,(A)\cdot(I)} = .324$$

4. Dependent variable: Illiteracy total
   Independent variable: Employment in Primary Sector
   Control variable: Urbanization (500 +)

$$r_{(P)\,(A)\cdot(I)} = .665$$

Table 39 (continued)

MULTIPLE REGRESSIONS

Dependent variable:	Illiteracy total
Explicative var.:	% pop'n using huaraches % urbanization (2500+) % employed in sec'y sector % employed in prim. sector
Multiple correlation:	.823
R^2:	.677
Standard Error	6.2615

Analysis of variance:

			Mean square
Df Regression:	4	2221.7186	555.4297
Residual:	27	1058.5736	39.2064

Variables	B	BETA	E.S.B.	F
Huaraches	.21735	.25891	.12171	3.189
Urbanization	-.15387	-.26582	.15102	1.038
Secondary	.29907	.22285	.24947	1.437
(constant)	39.77795			

SUMMARY TABLE

Variable	Mult. Regr'n.	R^2	R^2 changed	R.	B.
Huaraches	.52417	.27476	.27476	.5242	.21735
Urbanization	.76421	.58401	.30925	-.72195	-.1539
Secondary	.77932	.60734	.02333	-.5243	.2991
Tertiary	.82298	.67729	.06995	-.7972	-.5675
Constant					39.7780

Because of these two problems we decided to use two additional indicators (type, or absence of footwear, and Spanish-speaking indigenous population). As an analytical technique, we used partial correlations which statistically allow us to determine the influence of one variable over another, when a third variable is controlled.

The utilization of the indicators "type of footwear of the one-year old and over population", and "percentage of population illiterate", makes the predictive efficiency quite a lot better than using the censal category of indigenous, the correlation rising to .744 exactly the same intensity and direction as the correlation of illiteracy with employment in the primary sector.

This is the first important and objective indication of the partial correlation between illiteracy and percentage of population indigenous, controlling for employment in the primary sector. Here we find that the correlation is reduced to .179 (from an original of .424). The reduction does not disappear totally, indicating the existence of an additional variable in the relationship (it is probable that this variable is of an agricultural type). At any rate it can be noted that the correlation between illiteracy and percentage of Spanish-speaking population is indigenous and is negative, although somewhat weak. It is important here to consider the direction of the relationship, since in this case it would be indicating a small advantage of the Spanish-speaking indigenous population over the rest of the peasant population (or the marginalised population that use hauraches or go barefoot).

It seems then that we are not dealing with a cultural resistance of the indigenes to the schooling of their children. The indigenes of Mexico, the same as those of the rest of Latin America, have been systematically marginalized either towards the poorest sectors of agriculture or towards the urban or semi-urban levels where they have ended up losing their identity. In Mexico, where the indigenous population is relatively small (around 8 per cent of the total population), there exist basically three types of situations: a) indigenous populations that maintain their autonomy and are isolated or independent; b) the indigenous population that cohabits in municipalities or regions with non-indigenous groups in relatively important proportions; and c) the indigenous population that is a minority in municipalities, towns or cities where the dominant language is Spanish.

The greater the degree óf physical and cultural isolation, the greater the persistence of the monolingual community; the greater the isolation from the nuclei of power, the less the educational supply, and the greater the illiteracy. From the economic point of view, it is probable that these communities live on a subsistence agriculture, in temperate agricultural zones, or in tropical mountainous regions and in situations of extreme poverty.

Where the indigenes are in the minority, the probability of bilingualism increases considerably, although the levels of exploitation also increase. Where the community appears tied or integrated to the national complex, it is probable also that access to mechanisms of transculturation accelerate, and that rapidly, with the educational opportunities, and from the point of view of censal classification, the generation of young people no longer are classifiable as indigenes. The process of cross-breeding can lead - in optimal conditions - to an opening of the social system. However, in the urban nuclei this optimal situation can be valid for a small minority, while it is possible that the majority survive in situations of underemployment (see Lourdes Arispe, op. cit.).

In the regions where the indigenous population consitutes a significant minority, diverse situations can arise according to the relative degree of isolation of the community with respect to the central nuclei of power. In the more isolated communities, the indigenous sectors will be exploited principally as cheap labour, especially in those municipalities where one or more 'caudillos' manage the entire apparatus of repression. Indigenes and peasants maintain a very similar situation in terms of standard of living (almost absolute pauperism), although there can be differences in terms of social stratification, where the indigene represents the extreme lowest category of the system.

In the majority of the states, the proportion of indigenous population to total population is less than five per cent. (Eleven states exist with proportions less than 1 per cent and eight with proportions between 1 and 3.3 per cent.) Only in Yucatan and Quintana Roo do they consitute the majority of the population of the state (55.5 per cent and 53.9 per cent respectively). In four states (Oaxaca, Campeche, Chiapas and Hidalgo), they make up a respectable proportion of the total population (40.1, 27.1, 22.1, and 20.3 respectively). In four states they represent a proportion that varies between 10 and 20 per cent (Puebla - 16.5, Guerrero - 12.1, Veracruz - 11.4, and San Luis Potosi - 10.8). Finally, in three states they represent between 5 and 7 per cent of the total population (Mexico - 6.4, Tlaxcala - 5.7, and Tabasco - 5.4).

As can be noted, the indigenous population of Mexico is concentrated principally in the central and southern regions of the country. Two thirds of the total of indigenes inhabit five states (Oaxaca - 21.8, Veracruz - 11.6, Yucatan - 11.5, Puebla - 11.1, and Chiapas - 9.3).

In the rest of the states, the indigenous popultation, although in the minority, tends to be located principally in mountainous regions or in temperate agricultural zones.

It can also be noted in Table 39, that the proportion of the indigenous population that speaks Spanish in addition to their native tongue tends to vary, there being no significant correlation between the absolute or relative quantity of indigenous population and bilingualism. In Zacatecas, Chiapas and Guerrero exists the largest proportion of non-Spanish speaking indigneous population (69.1, 53.1, and 51.3 per cent respectively). In the opposite extreme (in the Federal District, Tlaxcala, Sinaloa, Tabasco and Sonora) the proportion of indigenous population that does not speak Spanish is minimal (2.1, 4.9, 9.5, 1.6, 6.4 and 7.2 per cent respectively). Later on, on examining the states of Chiapas and Oaxaca, the fact can be reaffirmed that neither the absolute quantity nor the relative quantity are faithful indicators of the integration of the indigenes to the dominant language. Rather, the proportion of population that does not speak Spanish is an indicator that seems reliable for the determination of the degree of isolation of the indigenous communities in relation to what could be called national destiny.

Tables 40 and 41 present census data for the states of Oaxaca and Chiapas, both characterized by high rates of illiteracy and by a concentration of indigenous population.

The state of Oaxaca is examined in terms of districts, since the number of municipalities is 570. For the state of Chiapas we use the smaller census unit, the municipality.

In the states of Chiapas, Oaxaca and Guerrero, the highest levels of illiteracy in Mexico are found. The data for Chiapas, discriminated on the municipality level, present the most extreme characteristics, the rates varying from a minimum of 15.1 per cent in the municipality of Mazaton to 87.8 per cent in Chamula. In the state of Oaxaca - where the division is by district - the rates vary from a low of 17.6 in the Central District to a high of 68.7 in the district of Juxtlahuaca. In both states the rates of female illiteracy are systematically higher than the rates of male illiteracy, a common characteristic of the more backward regions, where sex is one more variable in the explanation of differential rates of illiteracy.

In the state of Oaxaca, the majority of the districts (eighteen percent) - have illiteracy rates higher than 40 per cent; and only the

TABLE 40: DATA CONCERNING ILLITERACY, URBANIZATION, EMPLOYMENT, AND INDIGENOUS POPULATION FOR THE STATE OF OAXACA.

DISTRICT	Per cent popul'n illiter.	Male illit.	Female illit.	URBANIZ 2500 or +	EMPLOYMENT Primary	Second.	Tertiary	Per cent Popul'n. indigen.	Non-Spanish speaking	Total no. of indigen.
Centro	17.56	12.27	22.36	75.4	23.1	22.3	54.6	8.02	3.8	10,786
Coixtlahuaca	23.77	18.02	28.48	0.0	57.7	31.9	10.4	7.68	1.6	1,029
Cuicatlan	43.21	35.41	50.99	6.1	82.9	7.2	9.9	55.37	16.5	21,111
Choapan	37.34	29.06	45.98	0.0	86.5	4.4	9.1	67.56	14.6	15,210
Ejutla	55.76	48.30	63.91	14.6	76.1	10.6	13.3	12.30	22.6	3,768
Etla	22.81	16.57	28.75	25.8	71.7	13.1	15.2	14.54	22.5	7,585
Huajuapan	35.44	29.59	41.26	14.1	50.1	33.2	16.7	17.07	17.5	12,292
Ixtlan	20.86	13.84	27.82	0.0	78.8	10.1	11.1	71.40	9.8	26,133
Jamiltepec	54.20	50.22	58.11	27.5	79.9	7.3	12.8	36.01	43.4	30,374
Juchitan	40.41	32.11	48.66	10.3	64.7	12.0	23.3	45.38	17.1	71,852
Juquila	53.53	47.73	58.98	25.3	77.9	8.6	13.5	19.53	42.8	8,878
Juxtlahuaca	68.67	64.37	72.55	6.5	87.3	4.0	8.7	52.28	53.6	23,765
Miahuatlan	51.77	40.13	63.41	7.9	83.8	7.2	9.0	36.88	22.6	22,465
Mixe	56.47	48.74	63.96	0.0	87.9	4.4	7.7	77.64	39.3	39,470
Nochitlan	27.43	18.66	36.17	5.6	80.1	9.8	10.1	36.27	9.8	19,104
Ocotlan	46.89	37.76	55.82	30.4	77.5	8.3	14.2	43.18	18.1	16,888
Pochutla	62.36	53.25	71.78	9.0	84.5	4.0	11.5	35.66	40.1	22,635
Putla	45.14	37.98	52.51	6.6	81.0	3.5	15.0	33.15	36.4	14,976
Silacayoapan	46.32	42.22	56.00	6.9	85.5	5.0	9.4	22.53	30.3	6,801
Sola de Vega	55.42	48.94	62.08	0.0	87.1	3.2	9.7	36.44	51.2	11,792
Tehuantepec	35.41	26.28	44.50	58.4	60.8	12.8	26.4	35.05	23.2	29,978
Teotitlan	63.91	56.32	71.08	33.2	80.8	5.6	13.7	80.57	59.8	70,866
Teposcolula	27.89	19.04	36.15	8.9	77.9	9.5	12.6	16.90	18.0	4,440
Tlacolula	40.73	32.25	49.24	33.4	75.1	10.6	14.3	64.81	23.0	39,881
Tlaxiaco	42.75	32.17	53.09	5.2	75.2	13.5	11.3	58.28	27.8	42,392
Tuxtepec	41.14	34.36	48.06	30.4	73.4	10.1	16.5	40.43	36.0	62,964
Villa Alta	33.33	26.16	40.19	8.4	85.3	8.2	6.6	82.86	26.0	26,085
Yautepec	33.31	27.34	39.15	0.0	83.1	6.2	10.7	43.95	16.5	10,367
Zaachila	36.01	19.54	42.18	37.1	75.3	6.1	18.6	20.95	13.2	3,436
Zimatlan	40.58	32.39	48.72	45.8	80.8	7.3	11.9	11.77	28.7	4,030
TOTALS	41.98	34.01	49.15	27.0	71.5	10.9	17.6	40.12	30.46	677,367

Source: Census data.

TABLE 43 : [illegible] MUNICIPALITIES ILLITERACY, URBANIZATION, EMPLOYMENT,
& INDIGENOUS POPULATION FOR THE STATE OF CHIAPAS

MUNICIPALITY	ILLITERACY			URB POP.	EMPLOYMENT			INDIGENOUS	
	Total	Male	Female	2500 +	Primary	Second	Tertiary	% of total	Speak Span.
Mazapa de M.	15.1	10.1	19.6	0.0	91.0	0.9	8.1	17.2	94.4
Bella Vista	17.5	12.1	23.5	0.0	90.7	0.9	8.4	0.0	75.0
La Grandeza	17.5	11.9	22.9	0.0	81.5	9.0	10.5	2.5	52.6
Tuxtla	18.9	13.5	23.5	94.1	11.5	23.0	65.5	1.7	93.0
La Libertad	23.3	17.2	29.7	0.0	94.0	2.7	3.0	0.0	100.0
F. Comalapa	24.0	19.0	29.1	15.6	88.7	2.0	8.5	0.2	77.0
El Porvenir	24.4	17.5	31.5	0.0	83.1	6.0	10.9	10.2	93.5
[illegible]	25.3	17.9	33.4	0.0	87.3	2.9	10.7	1.1	92.9
Independencia	27.5	23.1	31.7	0.0	96.5	2.1	1.4	0.3	87.9
Copainala	28.0	22.7	33.7	29.0	77.0	4.9	18.0	15.1	93.0
Tapachula	28.1	21.9	34.3	56.1	47.8	12.0	44.4	3.0	97.7
Arriaga	28.2	22.3	33.5	54.2	43.7	12.9	41.4	2.5	67.9
S.C. Casas	28.4	22.6	33.6	78.0	30.4	23.4	40.7	20.9	81.0
Huixtla	28.7	22.9	33.1	59.0	46.9	12.9	40.7	10.1	95.0
Jiquipilas	28.5	25.1	32.1	14.4	83.5	4.4	12.1	0.2	52.1
Motozintla	28.7	21.7	36.5	18.4	85.3	3.6	11.1	10.6	96.3
Catazaja	29.0	24.6	32.9	0.0	78.6	7.1	14.4	1.2	77.0
Acacoyagua	29.1	23.3	35.5	0.0	88.1	1.9	10.0	0.9	25.7
Cintalapa	30.7	25.0	35.8	37.7	64.3	15.0	20.7	0.6	43.4
C. Dominguez	31.2	25.1	36.4	57.4	46.4	21.1	32.5	3.0	48.0
Union Juarez	31.3	24.7	38.2	0.0	84.7	4.0	11.4	2.2	78.6
Tonala	31.5	27.3	35.4	44.7	58.0	10.9	31.1	0.6	87.0
Tuzantan	32.1	24.7	41.4	0.0	88.7	2.7	9.1	6.1	94.3
Bejucal de O.	32.6	20.7	44.2	0.0	89.3	2.1	8.6	1.7	91.4
Trinitaria	33.3	28.0	39.0	17.9	85.8	5.0	9.4	1.0	96.1
Juarez	33.5	28.1	38.7	0.0	85.7	3.7	11.2	0.1	100.0
San Fernando	34.2	30.9	37.5	34.3	87.0	3.7	9.3	1.0	91.5
Suchiate	34.7	28.7	41.5	35.4	68.0	7.7	24.4	0.0	87.0
Cacahoatan	34.9	28.0	42.5	27.7	76.4	5.4	18.3	3.1	93.5
Berriozabal	35.3	27.9	42.3	57.4	76.1	8.3	15.6	1.3	75.0
Ocozocoautla	35.4	28.1	42.6	30.4	77.6	6.3	16.1	4.5	65.5
Escuintla	35.7	28.6	43.2	28.4	77.6	5.2	17.2	1.2	98.6
Villa Flores	35.9	32.2	39.7	51.1	73.6	6.4	20.0	0.4	77.3
Metapa	36.6	27.9	44.0	0.0	55.7	11.1	29.7	0.3	80.0
Ixtapa	38.0	31.2	44.5	0.0	88.0	5.4	6.6	37.4	88.9
Tapalapa	38.8	30.5	48.1	0.0	91.7	2.9	5.5	60.8	77.0
Pijijiapan	39.5	34.7	44.0	27.9	67.9	9.9	22.0	0.7	91.1
Suchiapa	39.4	33.1	43.7	68.1	73.3	16.5	16.4	0.1	100.0
[illegible]	39.9	28.9	51.3	64.5	57.0	14.5	28.5	1.6	97.6
Chicoasen	39.5	35.9	43.1	0.0	90.5	3.5	6.4	0.3	75.0
Mazatan	39.7	33.9	45.0	0.0	81.0	4.8	14.2	1.1	96.7
Solosuchiapa	40.3	37.0	45.9	0.0	90.3	4.1	5.7	15.3	90.0
Chiapa de C.	40.7	38.4	47.7	33.4	66.0	9.6	23.7	1.1	86.1
Pichucalco	40.9	37.1	44.6	26.6	69.7	6.1	24.1	0.9	89.9
Acapetagua	40.9	34.0	48.3	23.5	73.3	6.7	20.0	0.0	93.2
Reforma	41.2	34.3	48.7	0.0	91.4	1.0	7.5	0.2	88.9
Tecpatan	41.2	35.6	47.4	16.0	70.6	10.7	18.7	17.2	86.4
A.A. de Corzo	41.7	33.6	51.6	0.0	80.7	4.8	14.6	1.1	88.9
Acala	41.8	30.7	45.1	53.0	85.5	4.6	9.9	0.9	54.9
Chicomuselo	42.0	34.9	50.3	0.0	75.7	4.5	19.7	0.3	65.0
P.H. Comaltitlan	42.2	35.0	49.6	26.0	75.6	5.0	19.4	1.0	99.6
Ixtacomitan	42.2	35.5	49.3	0.0	78.5	4.4	17.1	10.0	81.6
La Concordia	42.4	37.0	47.6	22.7	87.0	4.5	8.6	1.0	52.3
Mapastepec	42.5	36.6	48.9	35.1	77.0	5.5	20.7	0.0	91.3
Villa Corzo	43.0	35.0	48.0	32.0	85.9	3.7	10.4	0.1	4.3
Socoltenango	43.9	41.7	46.1	0.0	88.4	2.0	9.9	0.4	94.1
Siltepec	44.9	38.0	57.7	0.0	95.7	0.7	3.5	0.3	87.4
Tuxtla Chico	45.4	37.1	54.1	27.5	71.3	6.6	22.1	0.2	50.0
Sabanilla	45.1	35.3	54.3	0.0	97.8	1.0	6.2	73.3	64.3
Tzimol	46.1	40.7	52.0	51.4	86.7	6.9	6.4	0.0	77.0
Coapilla	46.1	38.0	53.1	000	88.3	6.8	6.0	15.7	97.1
Frontera H.	46.2	39.4	54.6	0.0	88.3	7.0	11.7	0.9	60.0
Huehuetan	46.6	39.4	53.5	37.3	85.7	5.5	9.0	0.3	95.8
Amatenango F.	47.6	39.3	56.5	0.0	92.1	1.0	6.1	20.6	80.6
Venustiano C.	48.3	44.7	51.9	59.6	75.5	10.0	15.7	10.4	89.3
El Zapotal	48.9	39.7	58.3	0.0	90.9	0.8	8.3	5.7	90.0
Teopisca	48.6	42.1	55.1	52.3	74.2	6.2	19.5	16.6	60.5
Ostuacan	49.3	44.7	54.5	0.0	87.3	2.5	10.2	4.4	96.3
Tapilula	49.0	38.9	61.3	60.0	75.3	6.0	18.7	15.3	80.8
Palenque	49.9	43.3	57.2	11.1	81.4	6.0	12.6	29.0	52.1
Soyalo	51.4	45.1	57.1	0.0	74.7	12.7	12.6	5.3	87.0
Nicolas Ruiz	51.8	47.0	55.5	0.0	91.4	1.0	7.6	4.1	99.2
Ixhuatan	52.2	38.6	60.4	0.0	88.7	1.9	9.4	44.5	71.0
Oxchuc	53.4	40.0	66.2	0.0	93.6	1.4	4.9	91.3	50.0
Amatan	53.6	41.0	67.4	0.0	96.0	0.0	3.2	20.6	80.6
Ixtapangajoya	54.0	42.5	66.3	0.0	87.6	2.5	9.9	10.9	81.4
Sunuapa	54.4	47.0	62.0	0.0	89.6	0.2	10.2	?	?
Jitotol	54.9	45.7	64.1	0.0	93.0	6.9	0.1	60.8	64.3
Chiapilla	57.3	55.3	59.6	0.0	93.8	1.4	4.8	1.1	77.0
Bochil	58.3	50.3	66.8	34.9	72.6	12.1	15.4	67.2	64.3
Rayon	59.4	49.9	67.8	0.0	85.1	4.3	10.6	43.7	95.5
Yajalon	60.1	53.7	66.9	38.6	80.5	4.7	14.8	61.6	67.8
Las Margaritas	60.3	55.5	65.2	18.4	88.1	2.4	9.4	61.6	60.9
Salto del Agua	60.4	49.5	77.6	0.0	89.3	2.5	14.2	56.0	93.5
Las Rosas	62.9	57.6	68.0	78.1	87.4	4.8	11.8	70.7	97.3
Simojovel A.	62.9	56.7	67.6	73.7	84.2	4.4	11.4	59.5	40.6
Huixtan	63.4	52.9	73.0	0.0	90.2	2.5	7.2	84.8	55.9
Tenejapa	64.7	53.5	75.6	0.0	95.0	1.0	4.0	90.0	47.0
Pantepec	64.6	54.9	74.3	0.0	94.5	5.1	2.4	88.9	70.0
Tila	65.0	54.0	76.0	19.3	93.5	1.1	5.6	78.2	30.9
Zinacantan	65.1	57.5	71.5	0.0	88.1	5.0	6.1	88.4	65.0
Amatenango V.	65.5	55.1	75.4	0.0	88.6	5.0	6.4	80.5	87.6
Chanal	65.6	56.5	74.7	0.0	78.3	5.4	16.3	91.5	43.2
Tumbala	66.7	56.7	77.3	0.0	97.6	0.6	8.0	81.7	31.9
P.S.Solistahua.	67.1	55.1	78.6	0.0	88.1	5.7	6.2	77.0	61.2
Altamirano	68.9	62.0	76.0	0.0	89.6	6.4	6.8	52.1	46.0
Huitiupan	68.9	57.9	78.1	0.0	93.3	1.9	5.4	69.2	61.5
Chenalho	69.1	67.0	80.9	0.0	91.6	1.6	6.8	72.0	30.3
Chapultenango	70.6	55.5	85.1	0.0	91.2	1.5	7.3	82.9	68.4
Totolapa	70.7	67.3	74.4	0.0	95.0	0.0	4.2	17.1	93.2
Larrainzar	72.1	61.4	83.3	0.0	91.1	2.2	6.8	84.8	34.1
Mitontic	73.2	68.9	78.0	0.0	93.8	0.7	5.6	90.7	16.0
Pantelho	73.3	68.5	77.7	0.0	88.1	2.6	9.3	75.4	32.2
Ocosingo	73.9	67.1	80.9	0.5	91.1	3.0	6.9	78.8	37.1
El Bosque	73.9	65.3	82.5	0.0	90.8	1.5	7.7	90.5	38.2
Francisco I.	73.9	67.5	80.4	0.0	95.0	0.4	4.6	95.6	44.9
Ocotepec	78.6	61.6	89.3	0.0	88.8	5.3	4.9	88.6	73.3
Chilon	81.3	70.5	88.3	0.0	75.8	4.5	19.7	88.1	75.5
Sitala	81.5	75.0	85.9	0.0	88.1	2.0	9.9	95.7	27.7
Chamula	82.5	75.0	90.7	0.0	97.2	4.1	3.7	90.0	30.8
Chalchihuitan	87.0	85.4	93.7	0.0	96.1	0.7	3.2	77.6	25.5
TOTAL	43.3	37.8	49.7	27.4	76.8	7.9	15.3	22.1	60.7

SOURCE : Calculated on the basis of data from 1970 Population Census

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Central District has an illiteracy percentage of less than 20 per cent.

The population of Oaxaca is predominantly rural: 73 per cent of the population live in places of fewer than 2500 inhabitants and employment depends almost exclusively on the primary sector of the economy (23 of the 30 Districts have more than 75 per cent of employment in agriculture). Only in the Central District is employment in the tertiary sector more important than the combination of primary and secondary. Employment in the tertiary sector has more importance than employment in the secondary sector, with the exception of the districts of Huajuapan, Coixtlahuaca, Tlacolula and Villa Alta. The noteworthy thing about the sectorial composition of employment is that the degree of urbanization does not seem to have importance.

The indigenous population is distributed throughout all the districts in varying proportions, and in nine of them they make up the majority of the population. In twenty districts the indigenous population represents less than one-third of the total population. The great percentage of indigenes speak Spanish (69.7 per cent), although only in the districts of Central, Coixtlahuaca, Ixtlan and Nochitlan can it be said that an almost total Spanishization has been achieved. There exist nine districts in which more than one-third of the indigenous population does not speak Spanish.

In the state of Chiapas, the situation seems more polarized as we analyse the data of the 111 municipalities making up this state. The state illiteracy rates are in the order of 43.3 per cent of the population of 10-years old and over, and the municipal rates vary from a minimum of 15.1 per cent in Mazapa de Madero to a maximum of 87.8 per cent in Chalchiuitan. There are only four municipalities with rates of less than 20 per cent, while 41 municipalities have rates higher than 50 per cent.

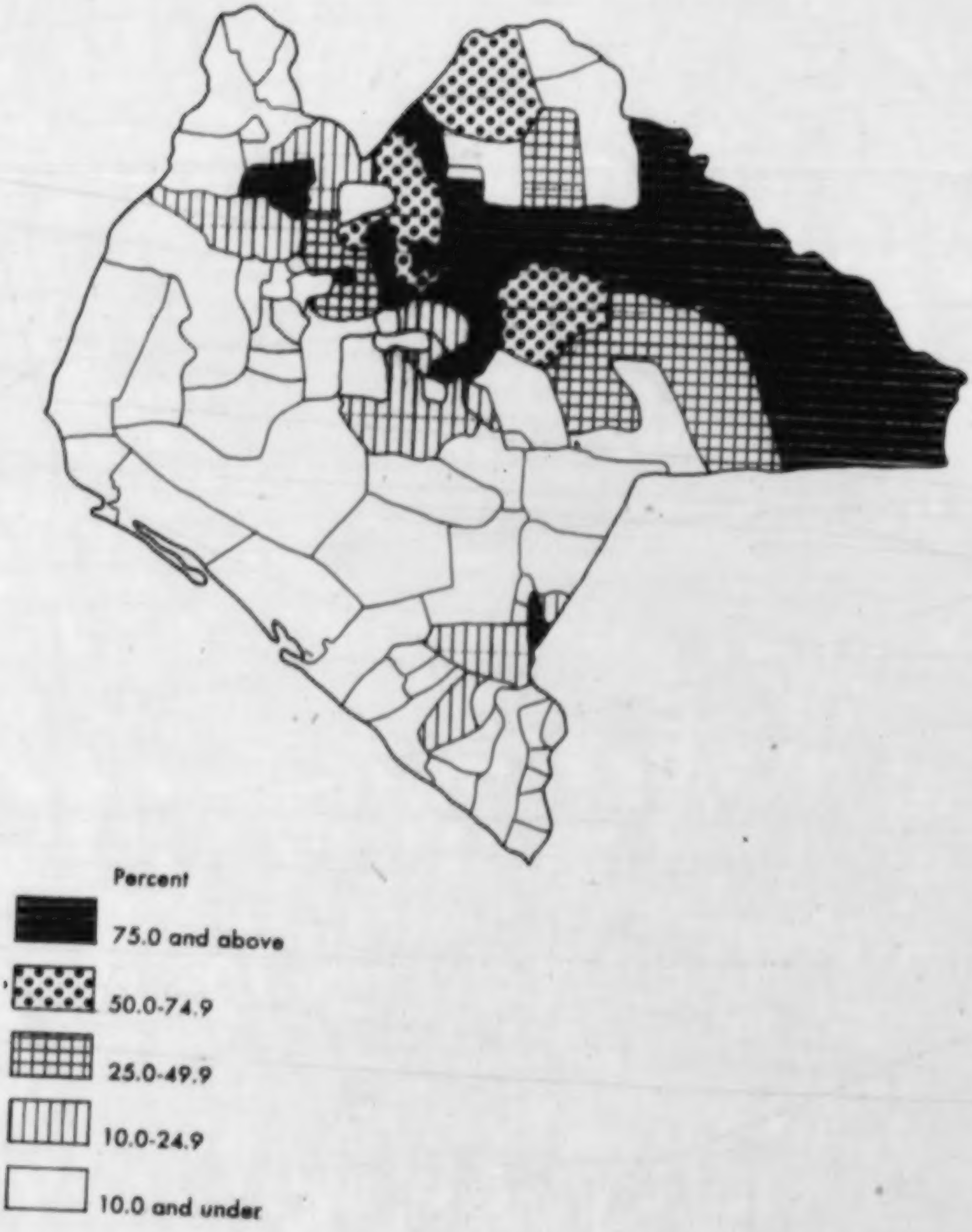
Illiteracy, discriminated by sex, maintains the characteristics typical of the more backward regions: female illiteracy rates are much higher than male illiteracy rates. More than half of the municipalities have female illiteracy rates higher than 50 per cent, and in only four municipalities is the female illiteracy rate inferior to the national average.

Chiapas is a state that is typically rural. More than 70 per cent of the population live in places of less than 2500 inhabitants. Of the 7,740 localities in the state, 5207 (69.8 per cent) are of less than 100 inhabitants (no locality exists of more than 75,000 inhabitants).

Employment is principally primary. Only Tuxtla and San Cristobal de las Casas have less than a third of the population employed in agriculture. The immense majority of the municipalities have employment concentrated in more than 75 per cent of the primary sector.

The indigenous population of Chiapas, less in proportion and absolute numbers than in Oaxaca, is however important and is located principally in the extreme east and south-east of the state (see Map 12). These are the zones with a greater incidence of illiteracy, and as can be observed in the table, there is a clear tendency in the municipalities with greater proportions of indigenous population to manifest high rates of

MAP 12: State of Chiapas.
Distribution of Indian population according to census data.
General population census 1970.


Percent
75.0 and above
50.0-74.9
25.0-49.9
10.0-24.9
10.0 and under

indigenous population to manifest high rates of illiteracy.

iv. The Municipalities

The analysis of the ecological distribution of census illiteracy, taking as a base the municipalities, allows a better appreciation and the inference of some characteristics that tend to "disappear" due to the hiding effect that is produced by the aggregate data either by state or by country.

In fact, no dramatic changes exist in the distributions, with relation to the analysis undertaken on the state level. But on the map there appear more clearly defined a set of eco-systems that permit the development of some important hypotheses about the influence of the factors of infra-structure and super-structure on the development of illiteracy and on the social relations of production in Mexico.

We had already noted for the cases of Argentina and Peru that the relative zones of development and underdevelopment guarded relationships that penetrated further than national and international political divisions to configurate international regions either of "development" of "underdevelopment", even within the larger Latin American conglomerate, frequently classified as underdeveloped. In this thesis we will not go into details about the characteristics of this regionalism, but simply will point out the characteristics noted in the three cases of Argentina, Peru and Mexico.

In the Mexican case, we observe the same phenomenon of the definition of eco-systems or regions, that define their affinity in terms of the combination of geographical, economic, political, social and cultural factors that go "further" than political borders and than national wills and decisions, to configurate units with almost unique characteristics. The Mexican case is almost as dramatic as the Peruvian case, and, as we have previously pointed out, promotes the hypothesis of the lack of completion of national integration between more favoured and less favoured regions in some of which there prevails a type of political, social, and economic relations basically distinct from those that prevail in others. And it is not that we are dealing with cultural differences between regions of a country; we are basically dealing with the existence of "two or three countries" within the Mexican state that are regulated by distinct mechanisms.

We will see later on how in Mexico at least five eco-systems are defined, two of which have very important relations of affinity with the United States (the northern eco-system), as well as the Central America (the southern eco-system).

The total of municipalities in Mexico is 3380. The state of Oaxaca contains the greatest number of municipal divisions: 570. In the treatment of Map L, we use for the state of Oaxaca the District division (a total of 30) so that the map appears with 2840 political divisions.

The division by illiteracy rates is made with data from the General

Population Census of 1970, consigning for each municipality the percentage of 10 year-olds and older that declare that they do not know how to read or write. Six cuts were made:

1) less than 10 per cent
2) between 10.0 and 19.9 per cent
3) between 20.0 and 29.9 per cent
4) between 30.0 and 39.9 per cent
5) between 40.0 and 49.9 per cent
6) 50.0 per cent and more

The distribution of illiteracy on the municipal level allows us to clearly appreciate the existence of three levels of illiteracy that correspond to a specific regional distribution and that configurate at least five eco-systems.

a) Regions with very high illiteracy levels:

These are located principally in the central and south regions of Mexico, and appear dominated by the influence of unfavourable geomorphic conditions, and where the influence of man over nature is poor and rather primitive. Mexico being a country of mountains, it is here that the integration of diverse orographic systems determines - in conjunction with climate and soil - an availability of natural resources for agricultural products with low and extremely fluctuating prices.

In Map L, three eco-systems appear in which high rates of illiteracy dominate:

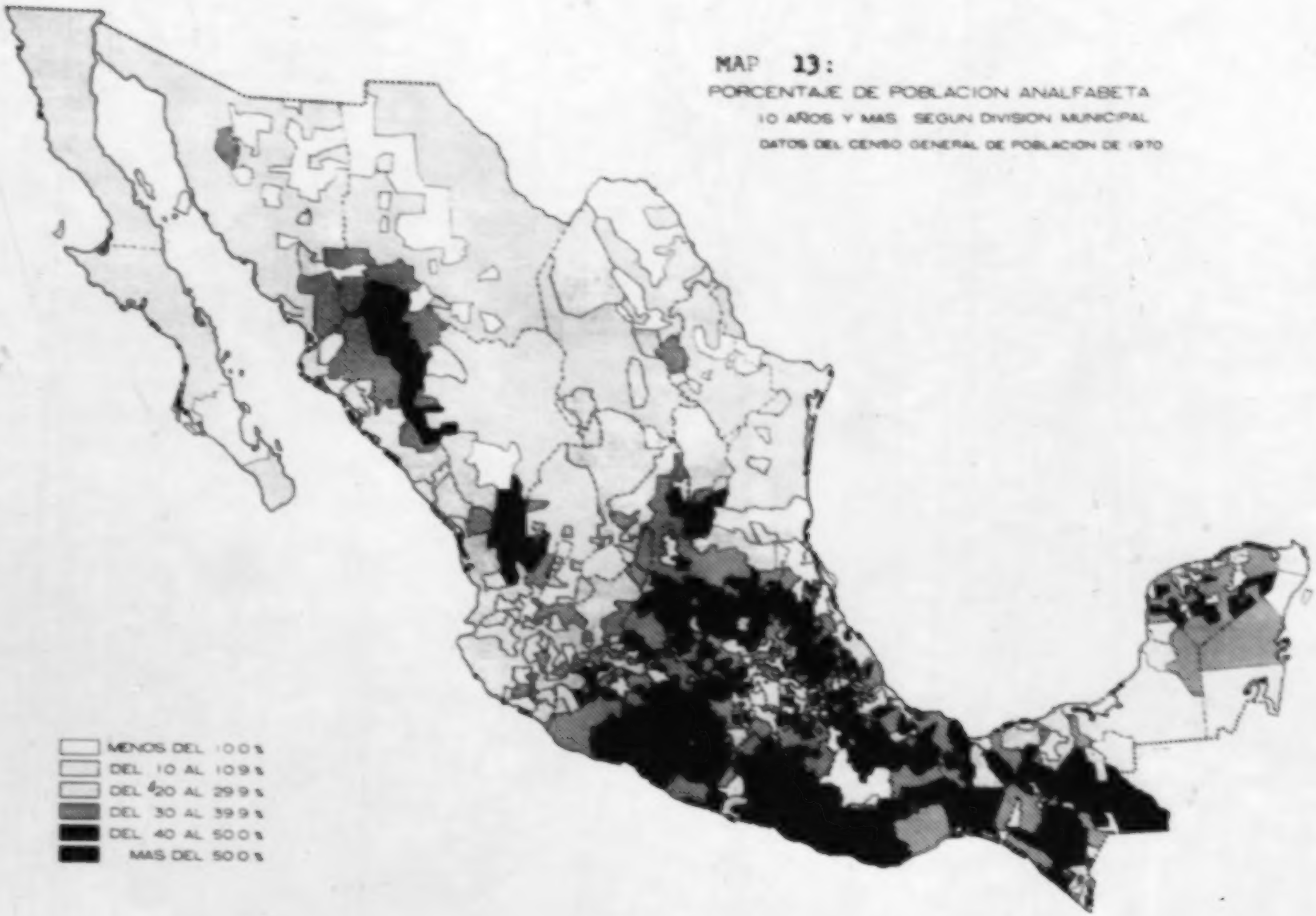
1. the southern eco-system, which almost corresponds to the

MAP 13:

PORCENTAJE DE POBLACION ANALFABETA

10 AÑOS Y MAS SEGUN DIVISION MUNICIPAL

DATOS DEL CENSO GENERAL DE POBLACION DE 1970


☐ MENOS DEL 10.0 %
☐ DEL 10 AL 10.9 %
☐ DEL 20 AL 29.9 %
▨ DEL 30 AL 39.9 %
■ DEL 40 AL 50.0 %
■ MAS DEL 50.0 %

definition of the pre-Spanish Mesoamerica. This eco-system covers a large extension of territory containing the states of Chiapas to the south-west, all the western coast of Oaxaca, Guerrero, Michoacan, extending towards the center of the states of Guanajuato, San Luis Potosi, Queretaro, all the east of Hidalgo, Puebla, western Oaxaca and southern Veracruz. The western part is dominated by the Sierra Madre of the south, the Sierra Madres of Oaxaca, and the Sierra Madre of Chiapas and the Central Sierra of Chiapas. In the eastern part, the eastern Sierra Madre predominates. In the center appears the transversal volcanic sierra and the central sierras.

ii. A second eco-system, dominated by similar ecological characteristics, is located in the region of the western sierra madre, at the height of the south of Chihuahua and Sonora and all of the north-east sector of Sinaloa, extending then to the south of Durango and to the northeast of Nayarit.

Although it is evident that the more backward regions in terms of illiteracy are those in which the accidents of geography determine the scarcity of fertile and cultivable lands, to these aspects can be added - factors connected to the proverty of the agricultural techniques of cultivation, the dominant modes of economic production, the political systems and systems of domination, demographic pressures, the scarcity of communiction nets, - in short, to all the interrelated factors that configurate the "vicious circles of poverty".

Isolated from the political centres of national decisions, these are the regions of Mexico in which a greater concentration of indigenous and peasant population is observed. The scarcity of fertile land has caused the less privileged populations and groups to be marginalized towards these sectors. Agriculture, then, when it is not plantation, is for self-consumption. The action of man over nature is primitive. The degree to which technology is applied to rural tasks practically has not varied since colonial days. The techniques of cultivation are rudimentary, the utilization of fertilizers nonexistent, and the seeds are of low quality. The nutritional customs of the indigenes and peasants depend principally on corn and beans, and these are cultivated for subsistence even in the most unfavoured areas.

Even in these regions, the more privileged groups occupy the best lands, developing systems of production of a large-semi-feudal estates type,(30) where a small landholding elite uses the peasants under different kinds of semi-feudal labour arrangements or services tenances. Technological innovation is non-existent, and business management is ordinary. The Estate owners content themselves with extracting a regular income from the work of the peasants and indigenes. Estate owners constitute the politically dominant class, in an unjust and politically oppresive social system.

The indigenous populations that inhabit these zones are abundant, particularly in the states of Oaxaca, Chiapas, Veracruz, Puebla, Hidalgo, Mexico, Guerrero and San Luis Potosi. As we insited earlier, the thesis about the congenital passivity of the Indian and his reactionary attitude to change is only a rationalization about some apparent traits in the social relationships which has been frequently used to justify social inequality, exploitation and marginalization in Latin America. The situation of the indigenous population has not varied substantially from the arrival of the conquerors and colonializers. The indigenous population for the most part continues in the status of a colonized people.

If in Mexico the dominant mode of production is monopolitic capitalism, in the regions that we are analysing, the dominant mode of production is pre-capitalistic. Pablo Gonzales Casanova observed rightfully that in the exploitation of the indigene "is combined a mixture of feudalism, capitalism, slavery, salaried and forced labour, partnership and work-gang, free services."(31)

There appear then two types of "countries" within Mexico, the urban country and that of modern agricultural zones, of whites and metis, of dependent capitalist devlopment; and the country of the indigenes of colonial and precolonial structure in which there are combinations of modes of production, but always on the level of exploitation.(32) This dual structure of the countries, although possible to classify within the modern-traditional continuum of the theories of modernization,(33) is dual only from the taxonomic point of view, since the two structures are not opposite poles of a continuum, but are part of a global structure of internal domination. The relationships between country and city, between the "modern" and "traditional" extremes are not relationships of equilibrium, but are relations of domination and of tension. The backward regions do not live "on the edge of development" but are backwards precisely because with their backwardness they pay for the "development" and the "modernization" of the more advanced zones or sectors.

To impute to the indigenes and peasants a "lack of achievement motivation" or a rejection of the values of "progress", and to take these variables as cause of their exploitation and marginalization, is not simply to ignore the tie and the direction of the causal relations. It is also to leave aside the structural and historical factors that cause groups and societies that managed to reach a degree of sophistication quite a bit higher than their European contemporaries in the first 1500 years of the Christian era, to be now in a situation of extreme poverty, economically and culturally, exploited by the "westernized" or exploited amongest themselves in an almost entirely dehumanized system.

In the State of Yucatan, we can observe extreme characteristics in the distribution of illiteracy. If as a region it is classifiable as an eco-system of a high proportion of illiterate population, these municipalities with very low illiteracy rates (Progreso, Quintana Roo, Rio Lagartos and Telchac Puerto) and medium illiteracy rates are also present. From the geomorphic point of view, it is characterized by its extreme flatness and although there are not rivers, there is an abundance of natural underground currents. The agriculture is of sisal in the north of the peninsula, corn in the central north, and tropical woods in the south-west. This is one of the states with the greatest proportion of indigenous population and although the inhabitants are concentrated in the sisal region, in the other regions the towns are inhabited principally by indigenes of Mayan origin.

The region or eco-system of the western Sierra Madre, also dominated by high illiteracy rates, is principally a region of conifers where agriculture is very poor, largly self-subsistent, very isolated with almost no road networks. It can also be observed on Map L that the area of high incidence is partially interrupted where the road joining Durango and Mazatlan is found, and where there exist regions relatively more favourable for agriculture.

Although in the rest of Mexico, zones or sectors can be observed in which some relatively developed regions alternate with underdeveloped regions, the region that we are analysing presents the characteristics of its homogeneity, where the degrees of poverty and backwardness are constant, which configurates the region as backward and underdeveloped, even on the borders of Mexico. All this Mesoamerica seems to present characteristics more akin to backward Central America than to the rest of Mexico, with a political system that makes these sones or nuclei sectors isolated from the national systems, as hypothesized above.

The Political isolation corresponds to physical isolation. These are the regions of Mexico with less density of roads. The map shows that the few municipalities with medium and low illiteracy rates in the middle of these high-illiteracy eco-systems, are those that communicate with regional political centres by means of important highway networks. This is the case with the municipalities along the highway that goes from

Durango to Mazatlan in the north, from the Federal District to Acapulco in the State of Guerrero, and from the Federal District to Oaxaca.

In summary: the zones of high incidence of illiteracy in Mexico are characterized by their domination by a series of interrelated factors, such as the accidents of geography, poor agriculture, the absence of roads, pre-capitalist systems of exploitation, and the political system of "cacicasgo". The educational offer is extremely poor and when it exists, is reduced to one or two years of schooling.

b. Regions with low illiteracy rates

These regions are located principally in two eco-systems: a northern eco-system and a central eco-system.

The northern eco-system includes all the northern region of the country and is prolonged towards the centre to the State of Agusscalientes and in the west towards Jalisco. It includes the states of Lower California, Lower California Territories, Sonora, Chihuahua, Coahuila, Nuevo Leon, Tamaulipas, a large part of Durango and the west of Zacatecas.

This northern zone, dominated by large sectors of desert and semi-desert, bordered by the Eastern and Western Sierra Madre and by the chains of mountains and volcanoes in the central part of the country, is characterized by its low demographic concentration (with the exception of the states of Nuevo Leon and Sinaloa, which have a medium demographic concentration). However, the population of all the states is concentrated in medium and larger cities, making the levels of urbanization definitely superior to those that exist in the regions where the highest illiteracy rates are found.

Separated from the rest of the Republic by the accidents of geography, the region shares with the United States some 3000 kilometros of border, in which the movement of persons, goods and ideas is relatively easy. The modes of rural labour are highly influenced not only because the region assigns its agricultural products to the North American market (cattle, cotton, fruits and vegetables) but also by the high importation of agricultural technology.

The agricultural zones correspond to the municipalities in which irrigation exists, since the scarity of rain is extreme. The production is organized in a relatively efficient way, around a capitalist system of production, with a high incidence of modern technology and salaried labour. Where irrigation does not exist, either there is no agriculture or only a subsistence level of agriculture. Cattle exploitation is extensive and covers the temporal regions. One of the important characteristics to consider in this region is that its colonialization is relatively new, the human element being integrated as colonizor, with characteristics similar to the colonialization in the United States and in the extreme south of Latin America, with much financial help from the central government, particularly in infrastructure works.

The agricultural regions then correspond more to the modern plantation system type, or to modern agriculture, with its final product having as its destination the international market. In this system of operations, although relatively advanced in relation to the semi-feudal systems in the south of Mexico, the structure from the social point of view simply changes from a traditional peasantry to a rural proletariat. That is, there is not family-farm type, with relatively prosperous farmers, but rather nuclei of wealthy farmers that find ways to go around the laws of the agrarian reform, and a rural proletariat with relatively miserable income levels.

The employment structure on the other hand, is closer to that of the industrial societies. That is, greater weight lies in the secondary tertiary sectors of the economy. Comparisons with the eco-systems where high illiteracy rates predominate are again polar. The basic difference between the two opposite eco-systems (the southern eco-system, characterized by high illiteracy rates, and the northern eco-system, characterized by low illiteracy rates) is found therefore in the infrastructural variables, principally in the ecological distribution of the population (urbanization) and in the employment distribution. The following table synthesizes for the two eco-systems, on the level of state, these distinctions.

The standard of living in the northern eco-system then is higher than in the rest of the country with the exception of that prevailing in the central eco-system (whose centre is the Federal District).

Of the 75 Mexican municipalities with illiteracy rates lower than 10 per cent, 67 are found within this northern eco-system. There are 4 municipalities in the central eco-system and another four in the state

TABLE 42: DIFFERENTIAL CHARACTERISTICS OF TWO MEXICAN ECO-SYSTEMS.

NORTHERN ECO-SYSTEM

States	Urbanization		Employment		
	2500	20000	Primary	Secondary	Tertiary
Lower California	84	77	24	26	49
Nuevo Leon	77	58	18	39	42
Coahuila	72	58	32	30	38
Tamaulipas	69	60	35	24	41
Sonora	67	57	41	18	41
Chihuahua	65	52	39	22	39
Aguascalientes	64	54	40	23	37
Lower California T	54	35	36	19	45

SOUTHERN ECO-SYSTEM

States	Urbanization		Employment		
	2500	20000	Primary	Secondary	Tertiary
Oaxaca	27.0	7.5	76	11	13
Chiapas	27.7	12.6	77	8	15
Hidalgo	28.2	10.0	65	17	18
Guerrero	35.6	17.7	67	12	21
Zacatecas	33.7	31.4	68	14	18
Queretaro	35.6	23.3	52	23	25
Michoacan	46.1	22.6	64	15	21

Source: 1970 General Population Census.

of Yucatan. Illiteracy rates lower than the national average prevail (between 10 and 19.9 per cent).

As noted on Map L, in the western region there appears a wide sector running from the extreme south-east of the Chihuahua to northern Jalisco and Nayarit, with high illiteracy levels, dominated by the western Sierra Madre and characterized by extreme isolation. In reality, two sub-zones are being dealt with, interrupted by a region of medium and low illiteracy. This is the sector with the only communication link (highway) uniting Durango with Mazatlan on the Pacific coast. For the south of Sinaloa and the coast of Nayarit, there is a plain with abundant resources for irrigation. In this sector exist important communication links, especially the highway going from Puerto Vallarta to the United States border.

The Central eco-system is located in the political and economic centre of the Republic and is dominated by the Federal District and by the Metropolitan Area of the City of Mexico. The zone has a very high demographic concentration and employment concentrated principally in the secondary and tertiary sectors of the economy. To give an idea of the importance of the economy in the region, it is enough to affirm that 51 per cent of the resources of the Direccion General Impositiva (Tax Department) are generated in the Federal District. The sector extends to include some municipalities along the south-east border of the state of Mexico and to the municipalities of Huitzilac and Cuernavaca in the state of Morelos in the south.

c. Regions with Medium Illiteracy Rates

Given the characteristics of the illiteracy distribution in Mexico, these regions appear more as a residual category than as clearly marked eco-systems.

Here illiteracy rates of 20 to 29.9 per cent predominate. What appears as an eco-system extends over the eastern coast of the Gulf of Mexico, the south of Tamaulipas, almost all the coast of Veracruz (to the extreme south of the state), the states of Tabasco, Campeche and Quintana Roo, and a good part of the state of Yucatan.

From the geomorphic point of view, these regions of the central eastern coast appear as plains dominated by tropical climates, with an abundance of oil, sugar cane, citrus and cattle. The demographic concentration is strong, with some important urban centres. In the extreme south-east, dominated by the Yucatan peninsula, a series of plains appear without superficial rivers (but with an abundance of subterranean currents). The economy is predominantly agricultural and depends basically on henequen in the north, corn in the north-center, and tropical woods in the south and east. The population is concentrated principally in the henequen zones where the lowest illiteracy rates are found while the medium and high rates appear in the corn and woods zones.

The rest of the zones of medium illiteracy appear in the sectors or "borders" of the north and central eco-systems, that is, where the influence of these begins to find natural and economic obstacles.

In Summary:

The distance existing between the ideology, the rhetoric, the legal norms and the Mexican reality is enormous.

The educational supply, which determines in decisive form the real opportunities for the schooling of the population, is exceedingly unequal in the country, giving as a result that the illiteracy rates appear on levels quite a lot higher than those that could be expected from a country that has had a sustained economic growth during the last 40 years.

The growth of the educational system on its different levels is determined principally by the educational demand, and apparently in Mexico the educational system functions with laws similar to those that regulate the capitalist economy. The school enrollment and its growth reflect a mechanism of "supply and demand" that regulates an "educational market". The highest rates of growth in enrollment in the last years are found principally in the middle and upper levels of the system. For example, the growth in enrollment for the 1964-1970 period has an average of 37.5 per cent, of which 32 per cent corresponded to the primary level, 83 per cent to the middle level, and 92 per cent to the higher level. Meanwhile, the illiteracy rates for the six year-old and over population were around 35 per cent for 1970, the average schooling of the population being 2.8 years. Between 1950 and 1970, the increases, by educational level, have been:

Primary level: 230 per cent
Middle level: 1000 per cent
Upper level: 720 per cent

The Spanishization of the indigenous population has been on the other hand a failure. In 1940 there were in Mexico approximately two and a half million monolingual indigenes, while it is calculated that for 1970 the number would rise to some 3 million.

More than 50 per cent of the rural schools do not offer more than three years of primary education, sometimes less. The potential demand for primary education is satisfied by 72 per cent in urban zones and 58 per cent in rural zones.

The situation of misery, incommunication, lack of money, scarcity or absence of teachers, and the accelerated growth of the population are factors that affect in a direct way the rates of illiteracy and of schooling on all levels. And these factors are but the reflection of conditioning on the upper levels that determine them: the dominant modes of production and the corresponding power structure.

Mexican society shares a problem common to the rest of the Latin American societies: it is a "dual" society, but not in the sense of coexistence of modern and traditional sectors as conceptualized by some authors of the theory of modernization.(34) Rather it is the coexistence of pre-capitalist modes of production in some regions (particularly in rural sectors) with capitalist modes of production in urban sectors and in agricultural areas destined to exportation products. This situation varies from country to country. But in the case of Mexico, it is evident that the massive implementation of agrarian reform has not solved the problems of extensive rural zones where the prevailing agricultural economy is local consumption, and where there still subsists a labour organization of a quasi-medieval type.

The unevenness in the illiteracy rates in the distinct regions of the country are the results of a social system where the groups that can exercise some pressure on the spheres of power obtain their benefits, but at the cost of the less-privileged groups. This structure of differential privileges generates a particular form of growth of the educational system which makes the school rather than an element of social equalization on the contrary, one of the most important agents for widening the breach.

The opportunities for entry into the educational system and the mechanisms of ascent through it, are conditioned by the class structure, by the employment structure, and by ecological factors.

The mechanisms for increasing the educational supply in terms of the capacity of demand and the pressure of the different social groups, contribute of course to minimizing the protest of these groups, and to conserving the structure of domination and the power system practically intact. But the cost is increased in social inequalities. The state, which chooses the easy solution of minimizing tensions in the face of these groups that can question it, then assigns the greater part of the educational budget to financing middle and upper levels of education. And in the internal zones of undevelopment, inhabited by peasants, indigenes and rural proletariat, the population continues to be marginalized from the educational system. They continue subsidizing with their low living standard the urban sectors.

FOOTNOTES

1. Data from the Organization of American States, Department of Social Affairs, Panamerican Union, Washington, General Secretary, Washington, D.C., 1969.

2. Data from UNESCO, Evolucion Reciente de la Matuaila en America Latina I; SepSeteubas, Mexico, 1974.

3. See the section of "Dynamics of the Latin American Economic Systems" in Chapter IV.

4. The efforts produced by the Cuban Revolution, particularly in terms of illiteracy, in fact now would place Cuba in the first group.

5. Among the more ingenious programmes of erradication, the newspaper campaigns are noteworthy, which dedicated a "school" section, destined to the learning of reading, writing, and elementary calculations.

6. Albert Meister, Alphabetisation et Development: Le Role de l"Alphabetisation Conctionnelle dans le Development Economique et Modernization, Editions Anthropos, Paris, 1973.

7. Paulo Freire, Pedagogy of the Oppressed, Herder & Herder, 1972, and La educacion como practica de la libertad, Ed. Siglo XXI, Buenos Aires, 1969.

8. Ivan Illich, Deschooling Society; Harrow Books, New York, 1970; and Alternativas, Cuadernos de J. Mortiz, Mexico, 1974.

9. Anibal Ponce, Educacion y Lucha de Clases, Biblioteca Popular Nacimiento, Santiago, Chile, 1972.

10. Paul Goodman, Growing Up Absurd, Vintage Books, New York, 1956, and Compulsory Mis-education and The Community of Scholars, Vintage Books, New York, 1962.

11. Reimer, E., School is Dead. Alternatives in Education, Anchor Books, New York, 1972.

12. For a comparative analysis using extreme cases, perhaps it would have been convenient to select such countries as Haiti, Bolivia, Guatemala and Honduras. Unfortunately, information for the 1960's was not available.

13. The political organization of Argentina corresponding to that of a Republic, in which the provinces retain some relation of autonomy with respect to the Federal Government, three types of schools developed: those depending on the nation, those depending on the provinces, and private schools regulated either by provincial or national dispositions.

14. In recent years, due to the organisational disorders produced by having both national and provincial schools which operate with different legal structures and salaries; and which rather than acting in coordinated form are competitive and superimposed - the return of the Lainex schools to the dominion of the provincial schools has been proposed. The source of the data is the National Development Council, *Educacion, Recursos Humanos Y Desanollo Economica-Social*, Republic of Argentina, Presidency of the Nation, Vol. I, Section G, Buenos Aires, 1968.

15. Source: National Investment Council, *La Educacion Privieria en Argentina*, Buenos Aires, 1965 (in Spanish).

16. Source: Minano Garcia, M., *Some Educational Problems in Peru*, The University of Texas Press, Austin, 1945.

17. See for example, Pedro Ortiz Vergara, "Las Sub-Cultvas Peruang", Ministry of Labour in Indian Affairs, Mongraphic Series #6, Peru, November, 1965, or the work of Margarita Nolasco, "America: Indios, Indigenismo, y Politica", Mimeo., D.E.A.S., Mexico, 1973.

18. R. Stavenhagen, *Las Clases Socials en las Sociedades Agraria*, Editorial Siglo XXI, Mexico, 1969, and "The Plural Society in Latin America" in *Dialogos*, El Colegio de Mexico, No. 55, Jan-Feb 1974. (in Spanish)

19. Bartra, R., "Modes de Produccion y Estructra Agraria n Mexico", in Historia y Sociedad, 2nd epoca, #1, 1974.

20. Lourdes Arizpe, "La Ideologia del Iudio y la Economia Campesina", *C.E.S.*, El Colegio de Mexico, Feb., 1975 (mimeo).

21. Pitt-Rivers, J., *Ethnic Groups and Boundaries*, G. Allen and Unwin, London, 1969.

22. Bonfil, G., "El Concepto de Indio en America; una categoria de la situation colonial", in *Anales de Antropologia*, No. IX, Mexico, 1972.

23. Lourdes Arizpe, *op*. *cit*.

24. Margarita Nolasco, op. cit.

25. Sorokin, P., Sociological Theories of Today, Harper International Editions, New York, 1966, page 28.

26. In the last five years substantial modifications have been produced in official policy concerning investments in the different sectors, particularly the rural ones, which will surely significantly change some of the inequalities appearing in the data we present.

27. Dewey, John, op. cit.

28. At the beginning of the programme, very few teachers had completed primary school; however, by 1928, the majority had completed at least the 6 years of primary schooling. David L. Raby, Educacion and Revolucion v Social n Mexico, SepSetentas 141, Mexico, 1974.

29. The National Unified School was an attempt to modify the Chilean educational system. Proposed by the Popular Front government headed by President Salvador Allende, it was inspired by socialism and directed towards the correction of anomalies and inefficiencies in the operation of the Chilean formal educational system. It is not our intent here to examine the ideology of the old school nor of the new proposition, but rather only to give some detail of: a) the immediate resistance that arose to the proposition, and b) how this served as an element to unite the opposition first around the educational question and then displacing itself to other aspects of the popular government. The resistance to the National Unified School arose principally to the ideology of the new school, which was interpreted in general as being the introduction of Marxist ideology into the educational system. Some examples will help to clarify:

- In El Mercurio, one of the most important newspapers in Chile, Senator Juan de Dios Carmona (Chirstian Democrat) expresed, "From today, the position of the Government is the imposition of the National Unified School, which conceals the greatest political contraband in history. Sheltering itself under said title and wielding reasons of reform and change, it will submit the Chilean child, and therefore the country, to the Marxist ideology."

- In La Prensa of the same day, the Council of Professors of the Luis Campino Institute of Humanities made an extensive declaration in which it was affirmed: "The project, aside from fulfilling the political objective of taking over the administrative power of the system, destroying the technical bases of the process of human and social formation and creating new instruments of mobilization and manipulation of the masses,...will only continue the line of constant deterioration of education, which we have been observing since the beginning of this Government...in addition to producing the divorce between Basic, Secondary and University teaching, the project sets as a goal the formation of a 'mass man' and of an activist for the 'revolutionary' cause; from an attentive reading of the project, it can be concluded that its application will originate extreme labour and religious tensions. Actually, the workers will see their work perspectives threatened by the presence of 'apprentice children' in the factories...On the other hand, antagonisms will be originated in terms of 'ideological and religious struggle', since the project in its letter and content ignores the reality of the Chilean Christian churches and of the philosophic-religious ideologies, as well as the human problems of vocation and of faith...It deals with an educational scheme that is paternalistic and impositive, in the ideological and political service of the Marxist-Leninist orientation of the government; therefore it offers a doctrinaire sectarism in disagreement with the ties of the majority expressed March 4th."

- An editorial in El Mercurio on April 5th maintained: "Crudely the lines are being revealed of the educational reform that the actual government is trying to bring about with the greatest celerity, on the fringe of a debate with the participation of the national sectors...Last March 27 the Minister of Education officially ordered the Department of Professional Education to prolong for another year the contracts of two technicians from Communist, so-called Democratic, Germany, amongst other reasons, for the similarity of the educational system of the GDR to what the government is implanting in Chile. This official document confirms what has been said and documented about the National Unified School; that is, that it is in the service of the construction of the Marxist-Leninist socialist society..."

- In La Tercera of April 7th, 1973, Domingo Godoy Matte wrote: "...we must not forget that the Popular Unity has utilized diverse roads to establish its influence in the country, and that the Communist strategy adopts a whole varied range of subterfuges that run from violence, opportunism, the tactic of conciliation and even the hypocrisy of appearing to be defending legality, in order to obtain its goals. Consequently, the democratic community has to be willing to defend itself in all areas in which Marxism will fight to achieve the implantation of the National Unified School, which is nothing but the instrument they will use to take gradual control of the souls of the youth until they are definitely submitted..."

- In the Tribuna of April 7, there appeared a direct incitation to rebellion. editoralizing: "we are back, due to the deafness of the educational authorities, to the old Latin saying, 'Facta, non verba'. We are going to deeds and not to words...If there is something that Chile repudiates, with strength and resonance, it is the establishment of a levelling table that would oblige all Chileans to walk the path that will take use to socialism... They (the students), those directly affected by the Marxist robot, do not want to lose their capacity to believe or to dissent' to have the capacity to love or the defect of hating; the students of Los Angeles have decided not to follow in the train of the polemics of sterile conversations. Thus they have taken over the secondary establishments, private as well as public, primary schools, and commercial institutes...They have then passed from words to deeds..."

30. Rodolfo Stavenhagen, "Opciones en Desanollo Agrario", in Comercio Exterio, Vol. 25, No. 5, Mexico, May 1975 (in Spanish); Stavenhagen proposes a classification of general types of agrarian structure, distinct from that of Germani, in the sense that it concentrates and discriminates more on the rural level, and is based on land tenancy. The typology includes:

a. "Ejidatarios" systems, or communes of land tenancy, where private ownership of land does not exist nor is it a commercial good. The members of the local communities have traditional rights of access and use of the lands of the town and of the tribe.

b. Small peasant enterprise, where the agriculturalist is owner or renter of the land, and works it with the help of the nuclear family. This agriculture is basically subsistence although some excess can be sold.

c. Small renting systems, where the peasant is not owner of the land, but there exists a contract of possession, renting or partnership with a land owner...

d. Large semifeudal haciendas, where the great part of cultiviable land is monopolized by a small number of landowners, and where the peasant population maintains working relations that are semifeudal or of a work-gang nature.

e. Modern systems of plantation, based on large extensions of land that form economic units and are operated as commercial enterprises that rationalize production, labour force is salaried and possibly unionized.

f. Family farm, commercial enterprises of medium size, directed by an owner-administrator, with relatively high levels of technique and rational operation of resources.

31. Pablo Gonzales Casanova: La Democracia en Mexico, Popular Series Era, Mexico, 1974.

32. This exploitation is not always by the white over the Indian or by the Metis over the Indian, since there exist indigenous groups that dominate other indigenous groups. See, for example, in R. Pozas and I. Rozas, Los Indios y las Clases Sociales en Mexico, Siglo XXI, Mexico, 1974, 4th edition.

33. See for example, Redfield, R., The Folk Culture of Yucatan. Chicago, Ill. The University of Chicago Press, 1941. or in more times, G. Germani, Politica y Sociedad en Una Epoca de Transicion, Paidos, Buenos Aires, 1968.

34. See, for example, in G. Germani; ibid.

CHAPTER VII

PRE-PRIMARY EDUCATION

The data available for undertaking a description of the characteristics of enrollment in Latin American pre-school education are asystematic and very poor. This is mainly due to the near non-existence of controls exercised by official state organisms over this type of service and the consequent little interest in the collection of statistics.

Pre-primary education in Latin America is a relatively new phenomenon, incorporating a quite limited number of children and presenting the following characteristics:

1. The service is almost exclusively restricted to large urban centres.

2. Enrollment is composed of children from the middle and upper strata of the population.

3. The cycle is subdivided into two levels: kindergarten and pre-primary. Kindergarten functions as a play school and formal teaching is reduced to a minimum. On the pre-primary level, academic activities tend to occupy the greater part of the time.

4. In general, the children enter at a very early age. In such countries as Mexico and Chile, kindergartens begin to accept children who are two years-old, and pre-primary accepts children of 4 and 5 years-old.

5. The services are in the hands of both official and private

sectors. In general, the official sector is in charge of the few services attended by children of the poorer strata. Private service is paid for, and almost exclusively attends to children of the upper-middle and upper strata. In various countries of the region, pre-primary services arose as a mechanism of employment for unemployed teachers and have begun to become a business with an ever increasing supply. Passing through any middle or upper class neighbourhood in Mexico City, Buenos Aires, Caracas, Santiago or Bogota, one can observe large numbers of "Jardines Infantiles" (play schools). The services in Mexico have the peculiarity of offering bilingual teaching (English and Spanish) and the system is so tied to the primary level that entrance into many primary schools is often conditioned to attendance at a determined type of pre-school.

6. The teaching staff is made up almost exclusively of females.

7. The number of children enrolled is constantly growing. In Mexico for example, the rate of schooling for 4 and 5 year-olds grew from 9.85 per cent in 1959 to 11.85 per cent in 1964 and to 13.80 per cent in 1970.(1) It is in Uruguay that this service is most extensive: in 1963, almost one-third of the five year-old population attended pre-primary school.(2) In Argentina, the rates of schooling by age in 1965 were as follows: 3 year-olds - 2.9 per cent; 4 year-olds - 10.6 per cent; 5 year-olds - 17.9 per cent.(3)

The increase in enrollment and the evolution itself of pre-school service has meant that this is no longer merely a day-care service, but has been transformed into part of the school system, with specific aims that include in addition to recreative games, pedagogical activities that influence the learning of psycho-motor abilities, calculations, and reading. In this way the children that attend pre-school enter into the primary cycle not only familiar with the school system, but also under superior conditions with respect to the learning of those abilities that serve as criteria for the evaluation of school achievement.

To the extent in which pre-school enrollment incorporates children from the more favoured strata, the result is that the kindergarten and pre-primary schools contribute potentially to widen even more the breach between the different social groups.

The cost of sending children to pre-school - in those places where this service is offered - in average terms amounts to one-third of the minimum wage of an industrial worker. Thus, when free services handled by the State do not exist, working class children do not attend pre-school, and thus enter primary school under disadvantageous conditions compared to their peer groups coming from the middle and upper classes.

There are at least four variables that complicate the situation with respect to this phenomenon of early entrance to school:

a. Differential fertility by social class: women of the lower strata tend to have more children than those of the upper and middle strata. Numerous studies have confirmed this relationship and our own research in Chile on a very small sample (300 cases) tended to confirm these findings, since the sample, discriminated by socio-economic strata, presented the following distribution of family size.(4)

SOCIO-ECONOMIC STRATA

	Low	Lower-Middle	Middle	Upper-Middle	Upper
Average No. of children	6.9	6.6	5.5	4.5	4.2
St. Dev.	8.7	3.2	2.9	2.6	2.2

Source: Padua, 1969

Hence, potential demand for school services is more extended for the less-favoured strata than for the more favoured strata. Even more important, the effects of interaction between this differential fertility and the three variables that we will now examine, makes the necessity for services more acute in the lower classes than in the upper classes.

b. Incidence of female employment. The participation of women in economic activities, although in absolute terms considerably less than that of males, is differential by social class and is in a process of growth. The participation of the family in the rural sector has cast doubt upon the criteria of using in statistics only the employment of the male. In fact, the peasant woman and her children work in the country on almost the same level as the male, particularly in the traditional sector. In the marginal urban sectors and in the working classes, the participation of the female in economic activities is important (principally in the service sector, but with a large penetration into the secondary sector). For example, in the textile industry and in clothing manufacturing, almost two-thirds of the personnel employed are female.(5) Female activity is concentrated principally in the tertiary sector of the economy, particularly in activities implying an extension of home activities (such as domestic service).(6) In synthesis, the women of the poorer strata - those that have a larger number of children - leave to work outside the home with greater frequency and in greater proportion than the women of the middle class.

c. The utilization of domestic services. Of the women that work, a large proportion are employed as domestic servants(7) working in middle and upper class homes. That is, even when the middle or upper-class women work, there would always be in their homes someone in charge of the domestic tasks and/or the children. The women of the less-favoured strata that work outside the home do not have someone with whom to leave their children, and these children therefore frequently are left under the care of their older brothers or sisters, or some neighbour, or nobody.

d. In the chapter on School Achievement (Chapter XII), we examine the effect of differential socialization on the development of intellectual abilities and on attitudes towards the school system. We see there the results of the child's social class on academic achievement and intelligence tests. The higher the socio-economic strata, the greater the academic achievement, and the greater the intellectual capacity as measured by verbal and non-verbal tests.

These four variables combine to form a situation which, as we pointed out above, increases the differences between social classes, at least with respect to school achievement, and its effects on the mechanisms of social stratification.

On analysing the efficiency of the formal educational systems, we will see that one of the more acute problems of the system is the retention of children until they complete the legal minimum, or the minimum necessary for achieving functional literacy. In primary school, more than two-thirds of the students leave school in the first two years of the cycle, and these children come mainly from the lower and lower-middle strata.

From the pedagogical and social point of view, the advantages which the pre-primary level offer seem to be unquestionable. We do not believe it is either plausible or convenient to eliminate this service. The necessity then arises for greater state intervention with gratuitous services and with regulations which would oblige large enterprises to incorporate pre-school services for the children of their employees.

From the point of view of purely economic calculation, it seems extravagant to insist on the more rapid expansion of the cycle of teaching in circumstances in which the educational problems would seem to lie more on the level of incorporating the school-age population into the primary system or on alphabetizing the adult population. However, the widening of the base of the school pyramid, with respect to incorporation of the population as well as to the retention of this, must contemplate the offer of opportunities not only on the school level but also on the pre-school level. With this, it would be possible not only to stimulate and orient the child in his passage from the family environment to the school environment, but also to take care of the problems of nutrition, health, and socialization is a more efficient way.(8)

For the children of middle and upper-class homes, the passage from the home to the school is not a very acute and critical transition from a family environment that reinforces and values the contents of the school environment. Attendance at pre-school services favours even more the acceptance by the child of new mechanisms of socialization, due principally to the gradual change from recreational activities to school activities.

For the children from peasant, worker, and marginal families, however, given the differences between the modes of socialization in these groups and the expectations of the school, the problem of acculturation is serious, not only due to the later entrance into the system but also because of the clear disadvantage these children face with respect to middle and upper-class children. The non-existence of pre-school services reinforces even more the problems of adjustment to which children from the less-privileged classes must be submitted. In the long run, a child that finds difficulties that seem insuperable to him will be a child with learning problems and a strong candidate for early desertion from the school.(9)

There are, then, reasons of a social, cultural, pedagogical, and political nature, for seriously considering the establishment of priorities in educational expenditures for the extension of this educational service, even when that implies considerable difficulties in financing and implementation. The social cost of allowing the continuation of present tendencies can contribute to sharpen even more the inequities of the actual operations of the primary level.

FOOTNOTES

1. Secretary of Public Education: 3 Anos de Estadistices Basicas en el Sistema Educativo Nacionial, Mexico, 1974.

2. Ministry of Public Instruction and Social Welfare, Informe sobre el Estado de la Educacion en Uruguay, Vol. I, Montevideo, 1965.

3. Secretariat of the National Development Council: Educacion, Recersos Humanos y Desa Mollo Economico-Social, Series C, No. 73, Buenos Aires, 1968.

4. J. Padua, La Situacion del Nino en la Escuela, ELAS/UNICEF/JNAEB, Santiago, Chile, 1969.

5. Censo Industrial de Mexico, Mexico, 1970.

6. For greater detail, see Teresa Rendon and Mercedes Pedrero, "La Mujer Trabajadora", Instituto Nacional de Estudios del Trabajo, Cuadernos #5, Mexico, 1975.

7. See G. Leff, "Algunas caracteristicas de las empleadas domesticas y su position en el mercado de trabajo de la Ciudad de Mexico", Thesis for the degree of Licenciate, UNAM, 1974.

8. For further details, see the Conclusions in Chapter 12, "Psychological Aspects of School Achievement".

9. The mechanisms that operate in this negative reinforcement have to do, not only with the potential abilities of the student, but also with the teacher-student and student-student relationships and with the formation of a positive self-image, and finding self-fulfillment in the undertaking of academic and intellectual activities.

CHAPTER VIII

PRIMARY EDUCATION

In general terms and according to census and official statistics, the progress observed in primary schooling in all of Latin America has been notable and amongst the highest in the world for the decade of the 1960's.(1)

Actually, while the rates of demographic growth reached approximately three pre cent annually for the area as a whole, the annual growth of the rates of schooling between 1950 and 1960 were of the following order:

- primary level: 5.7 per cent
- secondary level: 9.8 per cent
- higher level: 8.4 per cent

The decrease in the rates of illiteracy have been, then, the result of the increasingly more effective incorporation of the school-age population into the school system, since as we have seen above, the adult literacy programs have not been very effectiv.

In spite of this growth, a great proportion of Latin American countries have not yet achieved the effective incorporation of an important proportion of the school-age population into elementary education. The indices of the functioning of the educational system continue to reflect the same problems endemic to the school system, a situation which manifests the lack of coordinated and systematic efforts on the part of the authorities responsable for fulfilling the legal obligatoriness of primary schooling for all of the population between the ages of approximately six and fourteen years.

From the point of view of the formal structure of the system, the more acute problems are similar in primary school to those in other cycles of the system, and those are as follows.

a. Absorption or penetration: an index that reflects the covering of the educational demand by age groups - what per cent of school-age children are actually enrolled in school.

b. "Extraedad": chronological delay produced by late entrance to the system as well as by repeating of grades.

c. Repetition: students that due to failure or other reasons attend the same course in a cycle twice or more;

d. Retention: the capacity of the system to see that those students that do enroll, complete the cycle.

All of these indices are closely related (repetition influences or "extraedad", as well as the rates of desertion, for example). Also they are influenced by the same structural variables that influence the differential illiteracy rates (mainly urbanization, employment structure and class composition). Regional differences, on the level of countries and on the level of provinces and municipalities, as well as differential achievement by social class and ethnic groups, have not been overcome, in spite of the progress manifested by the indices and by official statistics. From the perspective of the educational system with its three traditional levels (primary, secondary, and higher), the breaches between classes and between regions rather than being narrowed are tending to widen.

In primary education, the general problem of the entire Latin American area - although on different levels - is the backwardness of the rural zones, manifested both in the quantity and quality of the educational services. Many of the countries still have the rural population marginalized simply because there are no primary rural schools or, those that exist usually have only one teacher working in one room with several grades. The number of grades that are offered in the rural area is generally limited to two or three (out of a total of 6 or more for the primary cycle). Table 43 synthesizes the characteristics of the primary education supply in rural Latin America, a supply which is poor and, as is seen, closely related to the general state of education in the country.

The rural teachers are very poorly qualified and the data of Table 44 for Colombia reflect a situation which, although tending to improve, is more or less common in the more backward countries of the region. In Equador, for example, only 31 per cent of the teachers had a specific preparation for teaching, while 48 per cent had only primary education.

It can be noted that the situation imporved considerably between 1960 and 1968, particularly in private schools. In spite of this, the

TABLE 43: PERCENTAGE OF SCHOOLS THAT DO NOT HAVE THE COMPLETE PRIMARY CYCLE IN RURAL ZONES, BY COUNTRY (AROUND 1970).

- Less than 25%:	Argentina, Costa Rica, Chile Uruguay
- From 25 to 49%:	Peru, Panama
- From 50 to 74%:	Bolivia, Brazil, Equador
- 75% or more:	Colombia, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Dominican Republic, and Venezuela.

Source: UNESCO: Evolucion reciente dela Educacion en America Latina, Vol. II; SepSetentas 230, Mexico, 1974.

TABLE 44: COLOMBIA. EDUCATIONAL QUALIFICATIONS OF TEACHING PERSONEL IN PRIMARY SCHOOLS, BY URBAN-RURAL TYPE AND PRIVATE-PUBLIC SCHOOL. 1960 AND 1968.

	1960 Type of School				1968 Type of School			
	URBAN		RURAL		URBAN		RURAL	
	Public	Private	Public	Private	Public	Private	Public	Private
PRIMARY	4.6	6.6	24.4	39.6	2.2	1.3	15.2	5.7
HIGH-SCHOOL								
complete	29.5	24.6	43.8	21.3	19.2	18.1	30.3	23.2
incomp.	10.1	26.9	5.9	8.9	10.8	24.1	11.4	19.4
NORMAL								
complete	11.6	9.5	9.7	7.9	7.3	8.8	14.6	11.7
incomp.	42.2	23.4	12.8	19.3	58.4	34.8	27.3	32.1
UNIVER-SITY								
complete	0.9	2.5	0.8	2.0	1.2	5.2	0.8	2.6
incomp.	1.1	6.5	0.6	1.0	0.9	7.7	0.4	5.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

majority of the teaching personnel are not trained teachers. The greatest percentage of specialization if found in 1968 in public urban schools, where 58.4 per cent of the teachers completed normal school, that is, were specially prepared for teaching primary school. The backwardness of the rural schools in relation to the urban schools is noteworthy. In 1960 more than two-thirds of the rural schools had teachers that had not even completed high school; in 1968, public schools had 45 per cent of their rural teachers with an educational level below completed high school.

The data that appear in Table 45 correspond to the rates of schooling for the 6 to 19-year old group, for the primary and secondary cycles of the formal education system. These rates of schooling allow us to undertake a first approximation about two problems of the functioning of the system:

1. the absorption of the educational demand (which corresponds approximately to the 6 to 14-year old population); and

2. chronological delay (manifested by late entrance into the system). This table, together with other data by country will enable us to analyse also the other two problems of repetition and retention, or its counterpart desertion (drop-out).

A. ABSORPTION OF THE EDUCATIONAL DEMAND

The potential and actual demand for primary education in Latin America is affected by a process of strong growth due to the influence of the series of factors that we noted on page 318. The demand is differential by country. The general denominator is that the countries with greater educational problems are those that are subject to a greater increase in demand.

In absolute terms, the situation seems to worsen due to the establishment of "vicious circles" that determine the relation between population increase, illiteracy rates, and schooling rates The fertility rates in the countries with greater rates of illiteracy are the highest in the region, which causes an important widening in the base of the population pyramid, a base which determines the demand for primary schooling. To the extent there exists a very strong negative correlation between schooling rates and illiteracy rates (the higher the schooling rates, the lower the illiteracy rates); and a strong positive correlation between schooling and level of development of the region (the greater the level of development, the greater the rate of schooling) - the acceleration of schooling occurs in the regions of greater development level and lower illiteracy rates. That is to say, the non-incorporation of a significant proportion of the school-age population in the more backward regions, is contributing to a "perpetuation" of illiteracy rates, which to be erradicated then requires strategies of the "adult education".

It can be seen in Table 45 that the better rates of schooling are found in Cuba (where a policy of priorities actually exists) and in the more advanced countries of the region.

The demand in Cuba is satisified in the first three years of the

TABLE 45: SCHOOLING RATES (PRIMARY AND SECONDARY EDUCATION), PER AGE GROUP. SELECTED LATIN AMERICAN COUNTRIES. PERCENTAGES

COUNTRY	LEVEL	AGE 6	7	8	9	10	11	12	13	14	15	16	17	18
Argentina 1966	Total	92.7	95.5	96.2	97.4	94.4	92.2	87.9	72.2	55.9	40.2	31.7	23.8	13.3
	Primary	92.7	95.5	96.2	97.4	94.6	90.5	79.4	42.4	21.4	5.9	1.1	0.4	-
	Middle	-	-	-	-	-	1.7	8.5	29.8	34.5	34.3	30.6	23.4	13.3
Cuba 1968	Total	100.0	100.0	96.8	82.6	82.2	77.9	81.5	74.6	58.8	42.1	24.1	16.4	10.8
	Primary	100.0	100.0	96.8	82.6	82.2	75.7	72.8	58.4	35.4	14.5	-	-	-
	Middle	-	-	-	-	-	2.2	8.7	16.2	23.4	27.6	24.1	16.4	18.8
Costa Rica 1967	Total	42.5	89.2	95.5	93.7	96.8	92.8	84.0	61.6	40.4	24.9	18.6	15.3	9.3
	Primary	42.5	89.2	95.5	93.7	96.8	92.8	78.2	45.1	20.3	7.1	2.2	1.6	-
	Middle	-	-	-	-	-	-	5.8	16.5	20.1	17.8	16.4	13.7	9.3
Chile 1967	Total	41.7	85.9	90.4	94.0	93.5	83.8	77.4	64.8	52.1	38.1	27.3	20.3	13.6
	Primary	41.7	85.9	90.4	94.0	93.5	83.8	77.2	61.4	41.7	22.3	7.9	2.2	0.8
	Middle	-	-	-	-	-	-	0.2	3.4	10.4	15.8	19.4	18.1	12.8
Panama 1967	Total	10.9	83.4	88.4	89.3	91.1	88.4	87.3	75.2	62.3	49.4	39.8	33.2	26.0
	Primary	10.9	83.3	88.4	89.3	91.1	88.1	81.0	52.3	31.7	16.0	6.3	2.3	1.1
	Middle	-	-	-	-	-	0.3	6.3	22.9	30.6	33.4	33.5	29.9	24.9
Venezuela 1968	Total	18.5	79.5	84.8	81.9	81.5	78.2	74.8	66.1	54.9	40.8	31.1	22.6	16.2
	Primary	18.5	79.5	84.8	81.9	81.5	76.6	66.3	46.8	28.6	13.2	5.0	1.5	0.5
	Middle	-	-	-	-	-	1.6	8.5	19.3	26.3	27.6	26.1	21.1	15.7
Colombia 1968	Total	-	-	70.6	70.4	74.0	64.2	62.3	55.5	18.2	20.9	18.7	17.2	12.0
	Primary	-	-	70.6	70.4	74.0	64.2	59.9	41.1	-	-	-	-	-
	Middle	-	-	-	-	-	-	2.4	14.4	18.2	20.9	18.7	17.2	12.0
Rep. Dominicana	Total	-	64.4	68.2	69.7	74.6	61.3	64.9	49.4	37.8	21.3	14.6	10.2	7.7
	Primary	-	64.4	68.2	69.7	74.6	61.1	63.6	45.4	30.4	16.6	5.4	1.8	0.5
	Middle	-	-	-	-	-	0.2	1.3	4.0	7.4	8.7	9.2	8.4	7.2
Peru 1965	Total	47.5	64.4	70.2	73.2	77.7	73.2	77.4	69.9	67.8	57.6	46.2	35.4	25.2
	Primary	47.5	64.4	70.2	73.2	77.6	71.3	68.0	53.3	43.6	30.2	20.1	13.1	9.3
	Middle	-	-	-	-	0.1	2.0	9.4	16.6	24.2	27.4	26.1	22.3	15.9
Brasil 1968	Total	-	42.7	56.3	59.2	59.2	57.1	62.8	56.9	46.2	37.3	31.0	28.3	22.6
	Primary	-	42.7	56.3	59.2	59.2	49.2	49.4	39.2	25.0	14.0	6.2	3.8	-
	Middle	-	-	-	-	-	7.9	13.4	17.7	21.2	23.3	24.8	24.5	22.6
El Salvador	Total	11.3	61.1	72.9	72.6	74.1	71.1	69.3	58.3	48.1	38.3	31.3	26.1	21.9
	Primary	11.3	61.1	72.9	72.6	74.1	71.1	69.1	54.8	38.5	23.5	13.3	7.4	5.0
	Middle	-	-	-	-	-	-	0.2	3.5	9.6	14.8	18.0	18.7	16.9
Bolivia 1968	Total	30.0	67.5	79.5	80.6	82.4	68.2	60.8	57.2	44.0	37.8	25.4	18.7	11.8
	Primary	30.0	67.5	79.5	80.6	82.4	68.0	55.1	36.2	21.5	13.3	6.9	2.6	1.2
	Middle	-	-	-	-	-	0.2	5.7	21.0	22.5	24.5	18.5	16.1	10.6
Nicaragua 1968	Total	-	54.6	63.1	59.0	61.3	58.5	64.7	57.2	?	?	?	?	?
	Primary	-	54.6	63.1	59.0	61.3	58.5	62.2	50.5	?	?	?	?	?
	Middle	-	-	-	-	-	-	2.5	6.7	11.8	15.0	17.8	17.2	15.5
Mexico 1964	Total	42.8	81.3	89.5	86.8	88.8	?	?	?	?	?	?	?	?
	Primary	42.8	81.3	89.5	86.8	88.8	76.6	73.9	51.5	32.2	28.2	?	?	?
	Middle	-	-	-	-	-	?	?	?	?	?	?	?	?
Paraguay 1966	Total	-	79.9	83.6	83.8	87.1	80.6	?	?	?	?	?	?	?
	Primary	-	79.9	83.6	83.8	87.1	80.6	75.5	56.4	36.4	?	?	?	?
	Middle	-	-	-	-	-	-	?	?	?	?	?	?	?
Guatemala 1966	Total	-	-	49.5	50.1	54.4	47.3	47.3	?	?	?	?	?	?
	Primary	-	-	49.5	50.1	54.4	47.3	47.3	32.4	18.4	8.3	5.3	?	?
	Middle	-	-	-	-	-	-	-	?	?	?	?	?	?
Uruguay 1963			80.5	88.8	94.8	94.8	92.7	88.9	?					
			80.5	88.8	94.8	94.9	92.7	88.9	70.0					
			-	-	-	-	-	-	?					

Source: Basic Population Data for Latin America. Department of Social Affairs, Organization of American States, Washington, 1969.

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cycle, while in the 9 to 13-year-old group, there still exists an important nuclei of the population to be absorbed. Given the rhythm of growth, it is possible that at present Cuba has absorbed the total of this age population.

It is in Argentina, that the best continuity of the system in the absorption of the demand is manifested, since the rates of schooling for the first 6 years are very high.(3) With less intensity, the incorporation of the population in Chile, Costa Rica, and Uruguay, reflects the situation we mentioned above in which the more advanced countries in educational material, have relatively stabilized mechanisms of "supply and demand" for primary education.

The countries with the greatest problems are Guatemala (with more than 50 per cent of the school-age population not attending), Brazil (where there is approximately 40 per cent of the population marginalized), Nicaragua (with a situation very similar to the Brazilian one), the Dominican Republic, Peru, Colombia, El Salvador, Bolivia (with approximately 30 per cent not incorporated) and finally Mexico, Panama, Venezuela and Paraguay (where the situation has considerably imporved in recent years and the school-age population is rapidly being incorporated.

The extention of primary education varies among the Latin American countries: 4 years in Brazil, 5 years in Colombia, 6 years in Uruguay, Panama, Cuba, Venezuela, Mexico, the Dominican Republic, Peru, Nicaragua and Guatemala, 7 years in Argentina, Paraguay and El Salvador, and 8 years in Bolivia and Chile. In spite of this, and with the exception of Argentina and Uruguay, probably between 30 and 40 per cent of the population of 6 to 14-year-olds that enroll in the cycle receive only one to two years of primary schooling.

In the more advanced countries of the area (with greater urbanization and less proportion of employment in the primary sector of the economy), the expansion of the enrollment on the primary level was realized during the first quarter of the century, with a substantive increase in the first half and then a stabilization of the enrollment. In the case of Argentina, for example, the evolution of the enrollment of the 6 to 13-year-olds presents the following characteristics:(4)

	YEARS					
	1869	1895	1914	1947	1952	1965
Per cent of 6-12 year olds enrolled	20	31	48	74	86	90

In the intermediary countries, the growth in enrollment began to accelerate during the decade of the fifties, not yet having reached stabilization. In the more backward countries, the process of acceleration has not yet occurred and the enrollment incorporates mainly the urban population of the middle and upper strata, with some of the proletariat in large urban centres.

The changes produced in enrollment are a consequence of the structural changes and of the factors mentioned in the introdution. The greater dominance of employment in the secondary and tertiary sectors and accelerated urbanization seem to be the two structural factors that explain the changes.

B. CHRONOLOGICAL DELAY

Late entrance into the school system and the repeating of grades are the two factors that contribute to this phenomenon of chronologicaly delay, extensive in all of the countries of the area.

The data of Table 45 point out that the maximum penetration into the system is made with the following years of delay:

- 0 years of delay: Cuba (100 per cent)
- 2 years of delay: Venezuela (84.8 per cent)
- 3 years of delay: Argentina (97.4 per cent) and Uruguay (94.8 per cent)
- 4 years of delay: The rest of the countries appearing in the table.

We must remember that the schooling rates do not correspond to the teaching cycles, nor to the number of years within each cycle. In fact, the calculation is extremely difficult to do from aggregate data and it would be necessary to have an individual report for each student. For many of the countries, a child of 12 should be in the secondary cycle; however, in all of the countries of the area enrollment in the primary cycle is higher than in the secondary cycle for thirteen-year olds. For fourteen-year-olds, only in Bolivia and Argentina are the numbers enrolled in the secondary cycle higher than those enrolled in primary schools. For fifteen-year olds, Chile, the Dominican Republic, Peru and El Salvador still have enrollment rates in primary schools higher than those for secondary schools.

Data from UNESCO point out that the chronological delay of one and a half years is quite significant for the entire area. For the calculation, the percentage of students in the primary cycle that are behind is taken into consideration.

TABLE 46: PERCENTAGE OF STUDENTS WITH CHRONOLOGICAL DELAY OF ONE YEAR AND MORE, FOR VARIOUS LATIN AMERICAN COUNTRIES (1966-1968)

Less than 50 per cent	50 to 69 per cent	70 per cent and more
Costa Rica	Argentina	Colombia
Chile	El Salvador	Equador
Panama	Paraguay	Guatemala
Venezuela	Cuba	Mexico
		Nicaragua
		Dominican Rep.

Source: UNESCO: Evolucion de la educacion en America Latina, SepSetentas, Mexico, 1974

Chronological delay - we pointed out above - is affected as much by late entrance into the system as by the rates of repeating, as well as by the systems of passing that are applied in the different countries.(5) In Mexico, for example, the influence of late entrance into the system on chronological delay is clearly seen in the following data:

The obligatory age for entering school being 6, the distribution of ages in grade one were as follows:

- 6 years : 32.5 per cent of the students
- 7 years : 34.5 per cent of the students
- 8 years : 15.0 per cent of the students
- 9 years plus : 18 per cent of the students

This distribution means that the average age of entrance to school is almost 8 years (7.5).

In Colombia, the situation was quite similar. In 1960, enrollment in urban and rural grade one presented the following characteristics regarding age distribution.

	Urban	Rural
7 years and -	34.3	27.3
8 years	27.9	22.6
9 years	16.0	16.7
10 years and +	21.8	43.4
	100.0 (372,955)	100.0 (105,959)

It can be seen in the Colombian data - and this is a situation common to all the countries of the area - that chronological delay is more pronounced in the rural sectors than in urban areas.

Comparing the values of the UNESCO tables with the data of

Table 45, the difficulty of arriving at a precise calculation for estimating the incidence of chronological delay is understood. It is evident that delay presents important problems in the operation of the system. In the same classroom, for example, there may coexist students of varying ages that represent special pedagogical and phychological difficulties. These are added to all of the other problems invovled in operating schools in more unfavourable zones.

C. REPETITION

The repetition of grades affects mainly the first two or three years of the cycle, with greater intensity in rural zones than in urban zones. More than half of the children that repeat a grade do so in the first two years of primary school, and two-thirds do so in the first three years on the average in Latin America. The probability of repeating a grade for a child living in a rural zone is double that for an urban child.

A repeating child is in the long run a drop-out child, and the cases of children that repeat one grade more than twice are rare. As we noted in Chapter V, the combined phenomena of repetition and desertion mean that in terms of difficulties of passing, it is harder to succeed in the grades within a cycle than to pass from one cycle to another. To the extent that repetition and desertion are closely related to the level of development of the region, to social class, to ethnic groups and to urban or rural origin of the child - barriers for social discrimination are located within each cycle of the system. Thus the rationalizations for increasing the educational supply on the secondary and upper levels to favour the social ascent of the less privileged classes, are only a smoke screen that hides the real problem.

We do not have reliable data concerning Latin American repetition rates. Data from UNESCO for graduates of primary schools in 13 countries show that more than 50 per cent of the students have repeated once or more some grade within the cycle.

TABLE 47: DISTRIBUTION OF 13 COUNTRIES ACCORDING TO PERCENTAGE OF PRIMARY SCHOOL GRADUATES THAT HAVE REPEATED ONE OR MORE GRADES.

10 to 59 per cent		60 per cent and more	
	Countries		Countries
1961-1967	Argentina (56%)	1960-1964	Colombia (63.7%)
1966-1969	Brazil (57%)	1960-1965	Costa Rica (65.2%)
1960-1965	Equador (52.2%)	1964-1969	El Salvador (67.7%)
1963-1968	Mexico (52.3%)	1962-1967	Guatemala (60.5%)
		1960-1965	Panama (67.8%)
		1963-1968	Paraguay (69.0%)
		1965-1970	Dominican Rep. (69.1%)
		1963-1968	Uruguay (75.8%)
		1960-1965	Venezuela (64.5%)

Source: UNESCO: Evolucion reciente de la educacion en America Latina, Vol. II, SepSetentas 230, Mexico, 1974.

Analysing data for some countries it is possible to visualize in a more precise way the characteristics of repetition. In Costa Rica, for example, the repetition rates have lowered dramatically between 1960 and 1968, although the characteristics of the distribution of the repeaters has not changed. Two-thirds of the repeating students repeat in the first two years, and the grade that is more repeated is the first.

TABLE 48: COSTA RICA. PERCENTAGE OF REPEATING STUDENTS FOR DIFFERENT GRADES OF THE PRIMARY CYCLE. 1960, 1964, 1968.

Year	Total repeaters	Repeaters by grade					
		I	II	III	IV	V	VI
1960	19.0	45.9	22.8	15.8	9.4	4.9	1.2
1964	16.7	44.6	23.2	16.4	8.2	5.4	1.3
1968	10.8	41.2	25.2	16.8	10.2	5.2	1.4

Source: Ministry of Public Education, Department of Statistics: Informe Estadistico del Sistema Educativo Costarricense: San Jose, Costa Rica, 1969.

The situation in Argentina is similar to that of Costa Rica. Calculating the percentages of repetition, not on the basis of the total of students repeating but on the total of student per grade, in the first year a little more than one-fourth of the students repeat the grade. The percentages of students repeating falls progressively until the seventh grade, where 3 out of every 100 students repeat the grade.

TABLE 49: ARGENTINA: PERCENTAGE OF REPEATING STUDENTS BY GRADE IN THE PRIMARY CYCLE OF EDUCATION. 1961.

	I	II	III	IV	V	VI	VII
% of students that repeat the grade	26.0	15.4	13.0	10.7	8.3	6.1	3.1

Source: Conade; op. cit.

The data we present only serve to illustrate a situation for the analysis of which requires better data. It can be hypothesized - and it is very plausible that hypothesis is correct - that the greater rates of repetition are given in the first grades because it is there that the transition between modes of family socialization and school socialization is critical. The transition between the home and the school will be much more difficult for children coming from peasant and working strata, as much due to the problems related to differential socialization which are examined in Chapter XIII, as to the fact that enrollment in pre-school education corresponds almost exclusively to children from middle and upper strata. Thus, the transition for these children is more gradual (passing from recreational to academic activities);

their early familiarization with learning tasks minimizes the probability of school failure.

D. RETENTION

The rate of school desertion is the index that synthesizes in the most dramatic way the problems of functioning of the school system. In Latin America, the majority of the countries that have been able to incorporate the school-age population, still can not retain the population in the school until completion of the legal requirements nor until enough schooling is achieved to guarantee functional literacy.

The data on which we base our analysis are censal data and refer to an overall characterization of the area and to differences by country. In some cases it is possible to discriminate the data according to some macro-structural and contextual characteristics which point out to us the numberical magnitude of the problem on somewhat more specific levels. There do not exist data that allow a clarification of such questions as: are there differences between males and females? Are the desertors those students that present the poorest academic achievement? What is the class extraction of those students that abandon the school? Do specific individual characteristics exist that differentiate desertors from non-desertors? What do those children do that abandon the school? Clearing up these unknowns is very important for explaining school desertion in all its magnitude. But facing this task would require writing another dissertation, with a design different that that we are using and with substantially higher costs than we are able to meet.

However there do exist studies that can serve as a guide later on for pointing out some hypotheses.

It has conventionally been established that the completion of at least three years of primary school means a relatively reliable indicator of the achievement of functional literacy; that is, the children are in condition to utilize the learning achieved in primary school for the activities of daily life. For the data that we are about to see, it can be estimated that functional illiteracy - an effect of early abandonment of the system, reaches very significant proportions in the adult population.

The scholastic wastage that is manifested in the lack of completion of each cycle is demonstrated for the entire school system in its magnitude by the calculation that seventy-two per cent of the educational budget of Latin America was used to pay for studies that were never completed. Actually in 1960 it was calculated that for the whole area, of every 1000 students enrolled in primary school:

- 95 completed primary school;
- 15 completed secondary school;
- 4 completed the first year of university
- 1 arrived at the sixth year of university

For some countries, primary school desertion was distributed in the following way:

- Uruguay	28.3%	- Mexico	61.2%
- Costa Rica	42.8%	- Equador	62.8%
- Argentina	45.8%	- Brazil	64.4%
- Panama	54.7%	- Paraguay	68.4%
- Chile	56.5%	- Colombia	71.9%
- El Salvador	60.4%	- Guatemala	74.7%
- Venezuela	60.7%	- Nicaragua	79.3%

The numerical magnitude of desertion from the primary level is impressive. The country that manifests the lowest rates of desertion is Uruguay, where as we saw earlier, a greater proportion of the pre-school population is incorporated into the educational system. The more developed countries in educational terms continue to be those with relatively better rates of passing, within a rather disastrous general panorama. The methods used for the computation of desertion in general overestimate the final percentages of desertors, particularly because they do not take into account the differential rates of repetition by grade. They compare enrollments in the first and last grades taking into account the number of years required for these. In the case of Uruguay, the calculation takes into account aspects that are not comparable to those of other countries. At the same time they allow us to make some estimation of the rate for countries like Argentina, with social and educational structures that are relatively similar.

Taking calculations done in Uruguay with methods similar to those used in other countries, it can be noted that for the period 1955-1960, the values approximate somewhat more the rates of countries with structural situations similar to those of Uruguay.

TABLE 50: PERCENTAGE OF DESERTORS FROM PRIMARY SCHOOL FOR THE PERIOD 1955-1960, DISCRIMATED BY SEX AND URBAN-RURAL AREAS.

Montevideo		Interior			
		Urban		Rural	
Males	Females	Males	Females	Males	Females
43.4	38.0	63.3	57.9	88.1	84.8

Source: Oficina Tecnia de la Comision Coordinadora de los Entes de Ensenanza y CIDE, Montevideo, Uruguay.

Rural desertion during these years in Uruguay was a little more than double the urban desertion. The regional disequilibrium meant the worst rates were found in rural zones and in the interior. Finally, independently of the region, the rates of female desertion are systematically lower than the rates of male desertion. Probably the male desertion is influenced by the early entrance of males into the labour market together with cultural aspects tied to the greater independence of the male from family control.

In Equador, studies for the period 1954-1959 indicate that of 100 students that entered first grade in 1954, 21 completed the sixth grade in 1959. Discriminating these numbers by rural-urban origin it was found that the percentage of desertion in the rural environment rose to 94 per cent of those enrolled, while in the urban zones it was 60 per cent. The greater percentage of desertion is between the first and second grades: 49 per cent of the enrolled students. Of all those enrolled in the second grade, 26 per cent fail. The same occurs with those enrolling in third grade.

In Costa Rica, the analysis for various periods indicates that a slight improvement is being produced in the efficiency of the system, although the accumulated desertion for the better years is almost 50 per cent of the students for the period 1963-1968. The data are from the official educational sector, thus they do not correspond in precise form to the data of Table 48.

The improvement in the efficiency of the system between the periods 1957-1962 and 1963-1968 has been considerable, particularly in the desertion between the first and second grades and between the second and third grades.

For Argentina and Mexico, we will analyse later on in greater detail the characteristics of school desertion, together with the other indexes of efficiency of the system. For now, we are interested in pointing out the following.

The factors that operate in school desertion can be classified in two types: scholastic and extra-scholastic. The scholastic factors are those relative to the activities of the schools: teaching methods,

TABLE 51: COSTA RICA: RETENTION AND ANNUAL AND ACCUMULATED DESERTION IN THE PRIMARY SECTOR OF EDUCATION. ANALYSIS FOR VARIOUS PERIODS.

YEARS	Grades	Retention	Desertion Annual	Desertion Accumulated
1963	I	100.0	-	-
1964	II	80.3	19.7	19.7
1965	III	72.7	7.7	27.4
1966	IV	62.4	10.3	37.6
1967	V	54.7	8.0	45.6
1968	VI	49.2	5.2	50.8
1960	I	100.0	-	-
1961	II	78.1	23.9	23.9
1962	III	65.2	10.9	34.8
1963	IV	55.3	9.8	44.7
1964	V	45.3	10.0	54.7
1965	VI	39.7	5.6	60.3
1957	I	100.0	-	-
1958	II	76.3	23.7	23.7
1959	III	61.5	14.8	38.5
1960	IV	48.3	13.2	51.7
1961	V	37.4	10.9	62.6
1962	VI	31.0	6.4	69.0

Source: Ministry of Public Education, Department of Statistics, Statistical Report on the Costa Rican Educational System, San Jose, Costa Rica, 1969.

curriculum, preparation of teachers, existence of schools, academic achievement, finally, to all of the aspects tied to the material and pedagogical aspects and to the social interaction within the school. The extra-scholastic factors refer to the environment in which the school functions, and include structural characteristics of the region where the school is located, as well as the socio-economic condition of the families, the degree of isolation of the community and similar aspects.

There exist interaction effects between both factors. For example, the greater the isolation of the community from centers of decision, the less is the quantity and quality of school material and teaching personnel of the school (particularly when the educational system is centrally organised). But, for practical reasons, these interaction effects have had little weight in the diagnosis of experts. Traditionally the emphasis has been placed on the strategy for the solution of problems in the intra-scholar factors. The problems of the functioning of the school system would be considerably improved or solved simply making the school operate more efficiently: better curricular more relevant to the local and regional realities, and more modern teaching methods with qualified teachers - such are the answers that traditional educational ideas offer for the solution of the problem.

However, according to the results of our analysis it is evident that the extra-scholar factors play an important role in the efficiency of the system. Changes made within the school would not necessarily lead to an improvement in the efficiency of the school, unless the "perturbing" conditions of the external environment are modified.

That is to say, the rates of school desertion will not lower simply by changing teaching method A for teaching method B; nor will they be substantially modified with the automatic passing from one grade to another; nor by obliging new teachers to work their first two or three years in the less favoured zones. These are important aspects and relevant and necessary for a more effective functioning of the school, but they are not related to the fundamental cause of school desertion. The research of Drysdale in Colombia(8) concerning desertors and non-desertors in a rural zone concludes that the living standard of the families, family size, individual characteristics of the student and the father's employment and education are the most important explicative factors in determining school success or failure. These findings correspond to our hypothesis about change and transformation of educational systems that are detailed in the section on "The School and Social Change" in the Introduction.

In terms of the results that the defficient operation of the system has for the educational levels of the population, Table 52 synthesizes some values for six Latin American countries, four of which are amongst those with the best educational levels of the region.

As can be seen, considering the conventional definition of function illiteracy to be the 15 years-and-over population with less than 4 years of primary education, there exist countries like Guatemala with somewhat more than 80 per cent of the population illiterate, even considering that only the youthful population, which is the group which presents the better levels of formal education, is taken into account.

TABLE 52: EDUCATIONAL LEVELS FOR AGE GROUPS, FOR SOME LATIN AMERICAN COUNTRIES. CENSUS DATA.

	AGE GROUP							
	15 to 19 years				20 to 24 years			
	Without instruction	Primary 1-3 yrs.	Primary 4-6 yrs.	Second. & Higher	Without instruc.	Primary 1-3 yrs.	Primary 4-6 yrs.	Second. & Higher
Argentina 1960	4.0	15.3	53.1	31.6	4.4	11.2	57.9	26.5
Uruguay 1963	2.1	13.8	46.1	38.0	3.3	17.1	45.7	33.7
Chile 1960	9.4	18.2	40.1	30.8	11.6	18.0	37.9	29.9
Costa Rica 1963	8.6	28.7	43.0	19.7	12.7	31.4	37.9	18.0
Colombia 1964	17.5	38.1	24.1	20.3	20.0	37.5	24.5	18.0
Guatemala 1964	59.4	20.0	14.2	6.4	62.3	19.3	12.4	6.0

Source: Formulated on the basis of census data from various countries for the years specified.

1. THE CASE OF ARGENTINA

The data we have for Argentina allow us to go deeper into a situation which can give us an indication about the situation in other countries of the area, since the structural variables that effect the internal efficiency of the system are the same.

It is necessary to insist that the situation of Argentina, is relatively privileged with respect to the majority of the Latin American countries, thus the crisis that in fact is acute in the Argentinian school system is even deeper in the rest of the countries.

The schooling rates by level of teaching for the year 1965 were quite high in Argentina and very comparable to those of European countries, managing to satisfy the demand for primary education in the more developed regions.

TABLE 53: RATES OF SCHOOLING BY AGE GROUP AND LEVEL (1965)

Age Group	Rate of Schooling	
6-12 years	91.6	(90.3 in primary)
13-18 years	43.6	(15.5 in primary; 26.8 in secondary; 1.3 in higher)
19-24 years	11.1	(1.0 in primary; 3.4 in secondary; 6.7 in higher)

Source: CONADE, Secretariat of the Presidency: Educacion, Recursos Humanos y Desarrollo Economico-Social; Vol. 1, Series C, No. 73, Buenos Aires, 1968.

The rates for 20 to 24 year-olds in Argentina are in fact superior to those of France (3.8 per cent), Italy (3.9 per cent) and England (3.9 per cent) in 1957. The unevenness between the various rates by cycle are analysed in Chapter V.

The increase in schooling in Argentina took place principally between 1914 and 1947 in all of the regions, particularly in the Pampa region and in the Patagone. Table 54 shows the schooling rates and the indexes of growth for the entire country. It is also noteworthy in the table that the Federal Capital had in 1914 a rate of schooling superior to that of the provinces of Formosa, Chaco and Neuquen in 1960.

Between 1960 and 1970, the annual growth rate in enrollment, by cycle, indicated that the growth in primary enrollment was the least high, while the pre-primary enrollment grew in remarkable form. The annual growth rates, by level, between the years 1960 and 1970 were as follows:(9)

- Pre-primary:	10.2
- Primary:	1.8
- Secondary:	5.6
- Higher:	4.3
- Average:	3.1

The data of Table 55 synthesize a series of statistics discriminated by political jurisdiction. It can again be seen here that which is pointed out in the section on illiteracy, that is, the enormous regional inequalities in the country, particularly in the northern provinces. The schooling rates for 6 to 12-year olds indicated that the satisfaction of the demand is realized totally only in the province of Buenos Aires and in the Federal Capital, which together represent more than half of the population of the Republic. In the majority of the provinces the rates vary between 75 and 89 per cent. The lowest rates are found in Chaco and Formosa, which are the provinces with the greatest percentage of the active population employed in agriculture. The correlation between the rates of schooling and the illiteracy rates by age is quite strong, indicating that even in terms of census illiteracy, it is possible that there exist in these provinces important sectors that are not yet incorporated into the school system. This conclusion is made by inference, since the schooling rates do not include the population that, having attended one or more grades of primary school, have left the system.

The indicators that reflect the internal efficiency of the system also reflect the regional disequilibriums. The percentages of promotion for the primary cycle vary from eighty-seven percent in the Federal Capital to 57.9 per cent in the province of Santiago del Estero, and the scholastic waste is around thirty per cent in the majority of the provinces.

School repetition and desertion are found much more frequently in the more underdeveloped provinces. By region, it can be noted that it is in the northeast and northwest of Argentina where the problems of efficiency of the system are found to be most acute.

It can be seen in these data that the rate of completion of the primary cycle, in spite of the high rates of schooling in the zones of the Pampa and the Capital, is quite poor. Although for the national total

TABLE 54: ARGENTINA: SCHOOLING RATES FOR THE YEARS 1914, 1947 AND 1960, AND GROWTH BETWEEN THESE YEARS. BY REGION.

REGION	RATES OF PRIMARY SCHOOLING			GROWTH BETWEEN		
	1914	1947	1960	1914-47	1947-69	1914-60
Federal Capital	72.1	85.5	94.7	18.6	10.8	31.4
Buenos Aires	42.9	77.7	94.2	81.1	21.2	119.6
Cordoba	40.0	74.7	88.8	85.3	19.8	122.0
Santa Fe	44.3	74.1	84.6	67.3	14.2	91.0
La Pampa	31.2	78.2	83.4	48.1	119.9	65.8
Mendoza	45.3	69.8	82.3	54.1	17.9	81.7
San Juan	50.3	74.5	83.4	48.1	119.9	65.8
San Luis	53.5	76.2	83.2	42.4	9.2	55.5
La Rioja	50.6	77.3	84.9	52.7	9.8	67.8
Formosa	31.9	66.8	69.7	109.4	4.3	118.5
Chaco	33.6	55.4	65.9	64.9	19.0	96.1
Misiones	52.1	78.0	78.7	49.7	0.9	51.1
Corrientes	42.0	62.5	74.6	48.8	18.4	77.6
Entre Rios	46.4	65.1	74.5	40.3	14.4	60.6
Jujuy	43.7	67.8	78.0	55.1	15.0	78.5
Salta	43.8	66.8	76.5	52.5	14.5	74.7
Tucuman	50.3	75.2	79.7	49.5	6.0	58.4
Catamarca	56.8	77.7	86.4	36.8	11.2	52.1
Santiago	39.5	64.9	80.7	64.3	24.3	104.3
Neuquen	26.0	56.4	70.6	116.9	25.2	171.5
Rio Negro	27.6	63.8	73.6	131.2	15.4	166.7
Chubut	36.2	58.5	75.1	61.6	12.8	107.5
Santa Cruz	37.8	68.5	81.9	81.2	19.6	116.7
Tierra del Fuego	40.7	80.6	84.0	112.7	18.3	118.6
National Total	48.0	73.5	85.6	53.1	16.4	78.2

Source: CONADE, *op.cit*.

TABLE 55: ARGENTINA: SCHOOL STATISTICS AND ILLITERACY RATES. CENSUS DATA (1960). PERCENTAGES

Jurisdiction	(1)	(2)	(3)	(4)				(5)	(6)			
				14-29	30-49	50 y +	D.K.		Prom.	Desg.	Rept.	Deser.
Capital Federal	-	94.7	3.2	0.8	1.1	7.4	8.6	17.3	87.0	13.0	3.9	9.1
Tierra del Fuego	4.2	89.0	4.2	3.5	3.1	10.9	0.0	0.0	71.3	28.7	23.6	5.2
Santa Cruz	16.8	81.9	5.0	2.8	4.7	11.8	5.4	0.3	72.8	27.2	18.3	8.9
Buenos Aires	7.0	94.2	5.6	2.3	3.6	12.8	13.6	35.2	83.7	16.3	13.8	2.5
Cordoba	15.6	88.8	8.1	4.1	7.8	14.6	13.6	8.8	77.2	22.8	12.0	10.8
Santa Fe	15.0	88.6	8.3	4.3	6.3	16.1	8.5	9.7	74.8	25.2	9.4	15.8
San Luis	23.0	83.2	10.2	5.9	10.8	16.8	17.1	0.8	66.5	33.5	19.3	14.2
La Pampa	29.4	83.4	10.3	5.1	9.6	19.8	33.3	0.8	77.2	22.7	13.9	8.9
LaRioja	19.8	84.9	11.3	5.2	10.1	24.3	46.2	0.5	73.0	27.0	16.8	10.3
Mendoza	22.2	82.3	11.7	6.7	11.5	21.4	21.1	3.9	80.2	19.8	11.2	8.5
San Juan	21.2	83.3	12.0	616	11.7	24.0	31.8	1.6	75.5	24.5	13.2	11.3
Catamarca	19.5	86.4	12.2	6.6	10.4	23.9	63.3	0.7	66.9	33.1	20.7	12.5
Tucuman	20.7	79.7	12.6	6.6	11.7	26.2	21.4	3.4	67.6	32.4	19.8	12.6
Entre Rios	22.5	74.5	13.4	7.5	12.6	23.7	57.1	3.6	72.0	28.0	17.9	10.1
Chubut	19.9	75.1	13.6	10.4	12.6	23.3	61.3	0.7	79.8	20.2	?	?
Rio Negro	25.2	73.6	16.5	11.8	16.9	26.2	34.7	0.9	68.2	31.8	12.4	14.6
Misiones	27.7	78.7	16.9	10.9	17.2	31.5	23.6	1.6	61.9	38.1	24.2	13.9
Neuquen	18.5	70.6	19.2	15.5	18.3	32.4	0.0	0.5	60.5	39.5	23.5	16.0
Formosa	34.4	69.7	19.3	12.3	19.8	36.6	26.6	0.7	63.7	36.3	21.1	15.2
Salta	17.4	76.5	19.7	12.6	20.8	33.2	52.6	1.8	66.4	33.6	20.9	12.7
Santiago	28.8	80.7	20.8	10.9	19.7	39.3	45.7	2.0	57.9	42.1	21.9	18.9
Corrientes	23.9	74.6	21.1	14.1	20.9	34.7	-	2.2	59.3	40.7	21.9	18.9
Chaco	34.6	65.9	21.6	17.1	22.2	32.0	30.3	2.2	61.2	38.8	24.2	14.7
Jujuy	21.1	78.0	24.9	17.1	28.4	50.0	58.4	1.1	65.2	34.8	20.5	14.3
TOTAL	13.1	85.6	8.6	5.1	7.1	15.6	17.2	100.0				

(1) Percentage of Population employed in Agriculture
(2) Rate of Schooling (12 years and more)
(3) Illiteracy Rate (14 years and more)
(4) Illiteracy Rate by age group
(5) Percentage of Population 14 years and more in relation to national total
(6) Annual Global Rates of School achievement.

TABLE 56: PRIMARY TEACHING. RATES OF SCHOOLING AND PRECENTAGES OF GRADUATES AND DESERTORS IN THE FIRST YEAR, DISCRIMINATED BY REGION (1961-62)

Region	Schooling rates	Graduates	Desertors
Capital	94.7	50.4	49.6
Pampas	91.2	56.2	43.8
Cuyo	82.8	44.6	55.4
Patagone	74.0	40.0	60.0
Northwest	79.7	27.8	72.2
Northeast	72.7	27.8	72.2
National Total	85.6	48.9	51.1

Source: CONADA, op.cit.

in the years that we are examining, only a little more than half the students managed to complete the cycle, for the regions of the north, less than one-third of the children completed school owing to the problems of chronological delay. It is probable that the real rates of desertion would be somewhat less pronouned than those appearing in the table; at any rate the regional disequilibriums would continue to be maintained.

Discriminating by age, it can be seen in Table 57, that the school "mortality" is produced mainly in the first year of school.

In the North, of every four children that enter school, one abandons it in the first year and only one completes the cycle. Before completing the fourth grade of the cycle, the following percentages of children deserted the school:

- Capital	: 29.8%
- Pampas	: 20.9%
- Cuyo	: 27.8%
- Patagone	: 36.5%
- Northwest	: 46.4%
- Northeast	: 46.6%

TABLE 57: PRIMARY EDUCATION, PERCENTAGE OF SURVIVORS ON EACH GRADE LEVEL. BY REGION (1961-62).

	Survivors						
REGION	1	2	3	4	5	6	7
Capital	85.3	77.6	70.2	63.4	57.2	51.5	50.4
Pampas	86.4	83.1	79.1	65.0	58.3	58.3	56.2
Cuyo	83.6	77.1	72.2	63.0	54.2	47.2	44.0
Patagone	79.3	71.5	63.5	56.3	47.9	45.9	40.0
Northwest	74.2	63.8	53.6	44.0	35.4	29.7	27.8
Northeast	75.9	62.3	53.4	41.7	34.9	28.8	27.2

The date from Table 58 allow a better appreciation of the values that are synthesized in table 57. It can be seen that in Buenos Aires the best achievement is obtained while in Correintes and Santiago del Estero it is the worst. In several provinces, school desertion decreases strongly after the first year, stabilizing in the next five years and again decreasing substantially in the last year (this phenomenon is repeated in all of the provinces). In the Northeast region (with the sole exception of Entre Rios), the desertion rates, although decreasing between the first and second grade, are maintained with values superior to ten per cent, a situation that is

TABLE 58: ARGENTINA: PRIMARY EDUCATION. RATES OF DEFINITIVE DESERTION BY YEAR AND REGION (1961-62).

	REGION	PERCENTAGE OF STUDENTS THAT DESERTED BEFORE REACHING GRADE 1	2	3	4	5	6	7	ACCUMULATED TOTAL
Plains	Fed. Capital	14.7	7.8	7.4	6.8	6.2	5.7	1.1	49.6
	Buenos Aires	6.8	0.4	2.1	4.1	5.5	5.0	1.9	25.9
	Cordoba	20.1	4.3	7.4	8.4	7.3	7.0	4.5	59.1
	Santa Fe	28.5	10.0	5.4	11.9	8.3	8.1	0.0	72.2
	La Pampa	17.4	5.6	6.2	6.6	7.7	5.5	4.0	52.8
Cuyo	Mendoza	11.3	5.8	5.5	9.5	8.4	7.5	3.0	50.8
	San Juan	21.6	7.1	0.9	8.7	8.4	6.7	1.2	54.5
	San Luis	23.4	7.1	7.3	10.4	10.8	6.8	5.0	70.7
	La Rioja	17.0	7.7	9.7	7.9	8.4	6.5	0.0	57.2
Northeast	Chaco	21.8	15.3	11.8	10.0	9.2	5.6	1.8	75.4
	Formosa	24.1	11.7	11.9	11.0	9.7	6.4	0.3	73.9
	Misiones	25.5	10.5	11.7	9.7	8.2	5.1	0.6	71.2
	Corrientes	31.9	14.8	11.7	10.5	6.4	4.5	1.7	81.5
	Entre Rios	16.6	13.3	1.7	15.6	4.4	8.4	0.1	60.2
Northwest	Jujuy	27.8	8.6	9.1	8.4	8.3	5.6	3.7	71.5
	Salta	24.4	8.8	9.2	8.9	8.7	5.7	1.0	66.6
	Catamarca	25.2	8.1	7.3	9.0	9.8	6.4	0.8	66.6
	Tucuman	22.5	10.0	9.1	9.2	7.8	5.6	2.5	66.7
	Santiago	29.8	13.5	13.0	10.7	9.1	5.3	1.5	82.8
	Patagone	20.7	7.8	8.0	7.3	8.3	6.0	2.0	60.0
	Nat'l total	16.0	6.2	6.2	8.2	6.8	6.0	1.7	51.1

Source: CONADE, *op. cit.*

repeated for the case of Santiago del Estero in the northwest.

It can thus be seen that Argentina, in spite of having indices situating it amongst the more advanced countries in educational terms in Latin America, has problems of efficiency of the system acute enough to affirm that the system operates in a very deficient form. Except in the most urbanized zones, the completion of primary school is only a number that appears in overall official statistics. When the country is divided into regions, the high correlation between the system's achievement and the economic development of the zone is noteworthy. In the province of Buenos Aires where the rural zones represent a modern and efficient agriculture, the rates of achievement of the system are higher even than those of the Federal Capital, where the migratory populations that come from the interior provinces as well as from Bolivia and Paraguay to a large degree take refuge in what are known as "villas miserias" (slum towns or shanty towns), and make up a marginalized population whose children will very probably be amongst the desertors from the school system.

2. THE CASE OF MEXICO

Mexico is one of the Latin American countries with the highest rates of demographic growth. This growth imposes additional problems on a quite backward educational system regarding incorporation of the school-age population.

The potential demand for the educational system on its three levels grew, for a period of 13 years, fifty-four per cent, since the population between six and twenty-four grew from 17,173,506 persons in 1958 to 26,555,664 in 1970. The potential demand by level between both periods is therefore as follows:

TABLE 59: MEXICO: POTENTIAL DEMAND FOR SCHOOLING, BY CYCLE, BETWEEN 1958 AND 1970.

Cycle	1958	1970	% increment
Pre-primary (3-5 yrs.)	3,229,657	4,973,148	54.0
Primary (6-14 yrs.)	7.778.771	12,471,830	60.3
Middle (15-19 yrs.)	3,282,666	5,068,101	54.4
Higher (20[illegible]4 yrs.)	2.812,302	4,042,585	43.7

Source: Carlos Munoz Izquierdo: "Evaluacion del Desarrollo educativeo en Mexico (1958-1970) y Factores que lo han determinado; Revista del Centro de Estudios Educativos; Vol. III, No. 3, 1973, Mexico.

This type of calculation for determining demand is sometimes deseiving, as we pointed out above, since the demand should discriminate in terms of two variables: first, in terms of the legal systems that establish the obligatoriness of schooling only for the primary cycle, which is that which represents the greater percentage of growth. Secondary, because the demand in the secondary and higher cycles is not determined by the percentage of population in school age but by the total of graduates in the cycle immediately prior, a requisite for entrance must be taken into account. (For example, to enter the higher cycle, it is necessary to complete the secondary cycle.)

The satisfaction of the demand, as Munoz Izquierdo noted, although increased in relative terms, has decreased in absolute terms. In relative terms it increased from thirty per cent of the population attending in 1958 to 55.4 per cent attending in 1970.

The rates of schooling by level of teaching between the years 1959, 1964 and 1970, indicate that that the growth in primary enrollment in recent years (particularly between 1964 and 1970) has been minimum, compared to the rhythm of growth of enrollment in secondary and higher education, which has been very pronounced. The rates by level and age, have been as follows:

Level	1959	1964	1970
Preprimary (4 - 5 yrs)	9.85	11.85	13.80
Primary (6 - 14 yrs)	63.52	70.22	71.29
Secondary (15 - 19 yrs)	10.83	17.82	30.24
Higher (20 - 24 yrs)	2.40	3.42	5.66

Calculated on the basis of data from the Secretariat of Public Education, Mexico.

The rate of growth on the secondary level grew substantially, particularly in the speciality of the "Bachillerato" (a pre-university degree granted by junior colleges) where the enrollment doubled between 1964 and 1970. For normal schools there has been an increase in students in absolute quantities, but a decrease in relative quantities. The rates of schooling by speciality for the secondary level are as follows:

Speciality	1959	1964	1970
Bachillerato	5.09	10.55	10.75
Normal	1.25	1.16	1.03
Technical	3.01	3.73	4.08
Preparatory	1.48	2.38	4.38

The rate of schooling for the population between six and fourteen years of Federative Entity indicate that the regional unevenness is strongly correlated with the rates of illiteracy by state, such as occurred in the case of Argentina. The provinces with the greatest problems of illiteracy are those that have the poorest rates of schooling. The highest rates of schooling are in the Federal District and in Nuevo Leon, where one-fourth of the population still remainds unattended.

The states where the situation is the gravest are those of Chiapas and Guanajuato, where the unattended population exceeds fifty per cent of the school-age population. More than one-third of the states have more than forty per cent of the school-age population outside of the school system.

Comparing the data of schooling for Mexico and Argentina, it can be noted that the rates for Argentina for 1947 are somewhat higher than the Mexican rates for 1970, particularly for the regions of the Federal Capital, the Pampas and Cuyo.

The inequality in opportunities for entering the school system are very acute in Mexico. Carlos Munos Qzquierdo mentions a study by the Secretariate of Industry and Commerce (10) in which they tried to detect the causes for more than 3 million 6- to 14-year old children, out of a total of almost eight million, not being in primary school. By a statistical sample, it was determined that of the total of non-attended children:

- 40.2% belonged to families whose monthly income was less than 16 dollars.
- 30.6% belonged to families whose monthly income was between 16 and 32 dollars.
- 13.2% belonged to families whose monthly income was between 32 and 48 dollars.
- 9.8% belonged to families whose monthly income was between 48 and 80 dollars.
- 6.2% belonged to families whose monthly income was higher than 80 dollars.

The relation between level of income of the family and possibility of entering the system is very high. To these monetary factors are added those tied to urbanization, the presence of school services close to the home and the system of production. These, as a whole form a matrix that perpetuates the mechanisms of discrimination.

TABLE 60: MEXICO: SCHOOLING OF THE 6 TO 14 YEAR-OLD POPULATION, BY STATE.

STATE	SCHOOLING RATE(*)
Federal District	74.16
Nuevo Leon	73.22
Lower Calif. Terr.	68.34
Sinaloa	67.11
Nayarit	66.62
Chihuahua	66.57
Tlaxcala	66.47
Lower California	66.20
Tamaulipas	66.20
Sonora	65.54
Coahuila	65.11
Campeche	64.86
Quintana Roo	64.26
Colima	63.87
Durango	66.78
Jalisco	63.60
Aguascalientes	62.71
Zacatecas	62.33
Mexico	61.29
Tabasco	60.85
Morelos	59.91
Yucatan	59.30
San Luis Potosi	59.18
Queretaro	58.39
Hidalgo	58.38
Veracruz	57.67
Oaxaca	56.19
Puebla	55.57
Guerrero	54.26
Michoacan	53.83
Guanajuato	48.81
Chiapas	45.42

Source: Calculated on the basis of Tables 4, 16, and 17 of the General Census of the Population, in the volumes by state. 1970.

(*) The calculation takes into account the population between 12 and 14 years that attends secondary school.

School survival is also much affected by demographic characteristics, principally the urban or rural character of the community in which the school is situated.

David Barkin(11) studied school survival for the 1958-1969 period. Here the wastage is noteworthy, especially in rural sectors. It can be observed in the data of Table 61 that rural enrollment in the first grade of primary school is higher than urban enrollment, while in the second grade the desertion in rural zones has been so strong that the relation is inverted. The highest rate of desertion is found between the first and second grade of primary school (43.8%). Mexico in that period being mainly rural, the highest rate of desertion was found between primary school and secondary school (42.1%).

From secondary school on there begins to operate the phenomenon of social class, now independently from the demographic (urban-rural) factor. Again a high rate of desertion is found between the first and second year of the secondary cycle.

The percentages of population attending and not attending the Mexican primary school in 1964 indicated that the maximum penetration was at the age of eight and relatively high proportions were prolonged only for the 7, 8, 9 and 10-year olds.

	AGE IN YEARS									
Population Attended	6	7	8	9	10	11	12	13	14	15
	43	81	90	87	89	77	74	52	32	28

TABLE 61: MEXICO: SCHOOL SURVIVAL FOR THE 1958-1969 PERIOD, BY TEACHING LEVEL AND URBAN-RURAL AREA

Primary level	Students	%	Urban	Rural
1958-Grade 1	1,823,765	100	44	56
1959-Grade 2	1,024,732	56	55	45
1960-Grade 3	799,862	44	66	34
1961-Grade 4	613,145	34		
1962-Grade 5	502,823	28	84	16
1963-Grade 6	448,865	25	87	13
1963-Passes	387,533	21	87	13
Secondary Level				
1964	224,361	12		
1966	146,058	8		
Preparatory				
1967	88,439	5		
1968	72,719	4		
Higher Level				
1969	58,332	3		

Source: D. Barkin: La Educacion, una barrera al desarrollo economico? Mimeo., El Colegio de Mexico, 1971.

Since 1950 some improvements have been produced in the quantity of graduates from primary school. However, the rates of desertion continue to be very high, particularly those of rural schools.

Of every 100 students entering the Mexican primary school the following percentage graduated, for various periods:

Percentage of Graduates from Primary School

1950 period: 9%
1960 period: 15%
1965 period: 22%

Urban-rural discrimination:

1950 period: Urban: 23%
Rural: 1%

1960 period: Urban: 31%
Rural: 3%

1965 period: Urban: 41%
Rural: 6%

For 1971, the situation had improved considerably, although the rural school only produced 12.7 per cent graduates.

The data of Table 62 present the efficiency of the primary cycle for the 1966-1971 period, discriminated by Federative Entity.

TABLE 62: MEXICO: THE EFFICIENCY OF THE EDUCATIONAL SYSTEM OF PRIMARY LEVEL, DISCRIMINATED BY STATE AND BY URBAN-RURAL AREA, 1966-1971 PERIOD.

	No. of Graduates/No. enrolled		
STATE	Total	Urban	Rural
Federal District	64.6	64.6	-
Nuevo Leon	61.0	83.7	16.1
Lower California	60.4	73.5	30.2
Coahuila	49.7	67.4	21.0
Tamaulipas	47.5	64.4	18.2
Mexico	47.4	90.1	17.7
Lower Calif. Terr.	47.0	62.9	32.2
Colima	42.0	84.9	7.1
Morelos	42.0	53.5	33.9
Sonora	41.6	58.1	18.2
Aguascalientes	41.5	66.2	16.6
Chihuahua	36.8	51.4	17.3
Sinaloa	36.1	60.0	18.8
Jalisco	34.2	49.8	9.6
Nayarit	32.6	73.3	12.5
Tlaxcala	32.6	54.8	22.4
Durango	29.6	58.3	16.1
Puebla	28.1	56.2	13.8
Veracruz	27.2	58.6	9.9
San Luis Potosi	25.7	57.2	11.2
Michoacan	25.7	51.3	10.7
Queretaro	24.4	62.2	10.0
Guanajuato	24.4	46.6	6.7
Hidalgo	24.0	50.3	13.6
Campeche	23.8	46.1	8.2
Zacatecas	23.5	42.0	14.7
Quintana Roo	22.0	78.6	8.2
Guerrero	22.0	60.8	7.9
Tabasco	20.3	59.1	11.5
Yucatan	19.4	28.9	6.4
Chiapas	15.4	53.6	5.1
Total	35.3	60.5	12.7

Source: I. del Camino and J. Munoz: "La Alfabetizacion y la Ensenanza Primaria en Mexico en 1971", Revista del Centro de Estudios Educativos, Vol. III, No. 1, 1973, Mexico.

FOOTNOTES

1. UNESCO, *Recent Evolution of Education in Latin America*, Vol. I, SepSententas, Mexico, 1974 (in Spanish).

2. The case of Mexico, in addition to being symptomatic, is representative of those countries in the area which have educational problems on the level that we are analysing. Between 1950 and 1970 the follwoing increases in enrollment were produced: Primary - 230 per cent, Secondary - 1000 per cent, Higher - 720 per cent. On the primary level, the rate of incorporation of the 6 to 14 year-old population increased 44 per cent in 1950 and 66 per cent in 1970, which indicates that although there was a considerable increase in the satisfaction of the demand, there still remained one-third of the population to be incorporated.

3. The over-all value of schooling rates varies significantly on considering the different subregions within the country. In the case of Argentina, as will be seen further on, the demand in the more developed zones is satisfied to 98 per cent, almost maximum values if we take into account the 2 or 3 per cent children with physical and mental problems that can not be incorporated into conventional schools.

4. Source: Secretariat of the National Development Council, *Education, Human Resources and Social-Economic Development*, Vol. I, Series C, No. 73, Buenos Aires, 1968 (in Spanish).

5. In various countries of the area, the system of "automatic passing" is applied for the first two years of the cycle. This consists of promoting the student on without taking into consideration his academic achievement. The system reduces repetition and supposedly lowers the drop-out rates.

6. See for example, Dryssdale, R., "Factores determinantes de la Desercion Escolar en Colombia", *Revista del Centro de Estudios Educativos*, No. 3, 1972. Also: Coleman, J., et al, *Equality of Educational Opportunity*, Superintendent of Documents, Washington, 1966. Also, Halsey, A., Floud, J. and Anderson C. (eds.), *Education, Economy, and Society*, The Free Press, New York, 1961. Also Padua, J., Ochoa, J., Quevedo, S., and Faria, R., *El Rendimiento Escolar: Un analysis enbase a algunas variables estructurales*. ELAS/JNAES, Santiago, Chile, 1968.

7. Recent information in the press (TIME, Feb. 4, 1976) of developed countries, based on studies of representative samples of the population, have shown that following this definition of functional literacy,

almost 20 per cent of the population of the United States that completed primary school and part or all of secondary school, was not capable of making simple calculations nor understanding instructions that were considered to be important for daily activities. All this implies that the criteria used to measure achievements are on this level quite subjective. For the case of Latin America, the establishment of three years as a minimum of schooling for the achievement of functional literacy is, from the point of view of the schooling distribution of the population, quite strong, since a good proportion of the countries place the majority of their population in this category.

8. Drysdale, R., *op.cit.*

9. Source: UNESCO, *Evolucion reciente de la educacion en America Latina*, Vol. III, SepSetentas, 30, Mexico, 1974.

10. Secretariat of Industry and Commerce, *Fundamento Estadistico del Plan de 11 Anos*, Mexico, 1959.

11. Barkin, D., "La educacion, una barrera al desarrollo economico?", El Colegio de Mexico, 1970, Mimeo.

CHAPTER IX

SECONDARY EDUCATION

The cycle of secondary education has experienced great growth in the last twenty years. For the Latin American area, the annual growth in enrollment had maintained an average rhythm for the 1950-1960 decade of 9.8 per cent, while primary education grew 5.7 per cent and higher education grew 8.4 per cent.

For the 1960-1970 decade the growth rate increased even more, although for the second half of the decade there was a tendency towards stabilization. Between 1960 and 1964, the annual growth rate in enrollment in secondary education was 11.3 per cent; between 1965 and 1970, it was 10.2 per cent.(1) In absolute values, enrollment grew from around 3,800,000 students in 1960 to 10,500,000 in 1970, that is, it almost tripled in one decade.

In spite of such growth, the total population of this age group (defined according to the official regulations in each country) that was not attended to on the secondary level grew from 21,556,000 in 1960 to 24,324,000 in 1970.(2) If one takes into account the real demand (graduates from primary aschool) and not the potential demand (demographic age group), the population attended to has grown in a quite significant way in both absolute and relative terms. The quantity of resources assigned to the secondary cycle, especially in those countries of the region where the rate of schooling and the absolute number of graduates from the primary cycle is growing considerably, will be higher than the encountered pressures to which those countries will be subjected where growth in enrollment was experienced in the decade of the forties and the fifties.

Unfortunately, the data are inconsistent because the rules in force and the definitions employed for secondary-school age population vary from country to country, depending on such situations as number of years in the primary cycle and on the age at which children begin school. For example, in Brazil, the duration of primary school is 4 years, while in Argentina it is 7 years. Here are three years of difference which complicate the calculations. It would be necessary to use an adjusted rate, such as we did in calculating the quantity of school-age population (see Table 64). Unfortunately, we did not have the necessary primary information. There is an additional complication, which is that the data from offical organisms concern enrollment in the first year of secondary education and the total of graduates from primary school; a simple relationship between both enrollments is used commonly to indicate the rate of absorption. However, in order to avoid over-estimations, it would be necessary to discount from the enrollment in the first year of secondary school those students that are repeating the year, something which is not generally done. That is why, in UNESCO data for various years, there exist contradictions, which we will now point out, which make an analysis in greater depth difficult for the region as a whole.

Aldo Solari(3) taking UNESCO data (Document No. 49, presented by the General Secretary of UNESCO at the Conference on Education and Economic Development, in Santiago Chile, 1962) presents in his article the following table (Table 63) in which the secondary school-age population (15-19 years) by country and the corresponding percentage of the population enrolled in secondary schools are presented.

TABLE 63: SECONDARY SCHOOL-AGE POPULATION AND PERCENT ENROLLED IN SECONDARY EDUCATION IN 1955 AND 1960.

	1955		1960	
COUNTRIES	School-age pop. in 1000's	Percent enrolled	School-age pop. in 1000's	Percent enrolled
Argentina	1,810	27	1,980	31
Uruguay	280	24	273	32
Panama	111	23	130	30
Chile	878	19	982	23
Costa Rica	110	16	127	28
Cuba	660	12	737	17
Peru	1,029	11	1,177	17
Venezuela	627	10	754	20
El Salvador	242	9	264	13
Equador	481	9	579	12
Colombia	1,664	8	1,937	15
Paraguay	195	8	215	13
Brazil	9,165	8	9,825	12
Bolivia	442	8	488	12
Mexico	3,405	5	3,916	12
Honduras	176	5	198	8
Guatemala	396	5	446	6
Domin. Rep.	351	5	377	5
Nicaragua	143	4	165	6
Haiti	518	3	563	3

Source: Solari, A.; "Secondary Education and Development of Elites' in Lipset and Solari (eds.): Elites in Latin America, Oxford University Press, New York, 1967.

These data, which correlate strongly with the distributions of the rates of illiteracy and primary schooling, do not correspond with the information that appears both in more up-to-date UNESCO documents and in statistics of some official organisms of countries for which we have primary data. For example, in Argentina, the percentage of students enrolled in secondary school for 1960, according to Solari, was 31 per cent of the secondary-school-age population. For CONADE (op. cit.) the corresponding rate for the same year is 24.9 per cent. It happens that the data of Solari take into account apparently the population between 15 and 19, while CONADE's definition is adjusted to the offical reglementation in force (13 to 17 years). The fidelity of the data depends then on the type of dfinition, but divergent definition make very difficult any attempt to compare either tendencies or characteristics.

For Solari's data, it can be seen that between the years 1955 and 1960 the countries with the greatest percentage of enrollment are those with occupational structures that are less dependent on the primary sector of the economy, with greater urbanization, less percentage of indigenous population, greater rates of primary schooling, and lower rates of illiteracy. The changes produced in the enrollment between 1955 and 1960, with the exception of Haiti, have been significant in all the countries, some of them managing to duplicate the enrollment, others showing important advances.

For 1970 there exist data for the majority of the countries, although there are countries (Argentina, Uruguay, Colombia, and Peru) that do not report statistics for the secondary teaching cycle. The data are from UNESCO and although they use - we repeat - different criteria from those appearing in the last table, they reflect a structure of growth in secondary school enrollment during the decade of the sixties that breaks with the tendencies of the earlier decades, presenting very special characteristics. Apparently, neither the illiteracy rates nor the primary schooling rates nor even the urbanization rates correlate strongly with the rates of secondary schooling.

The more impressive changes were apparently produced in the Dominican Republic, where five per cent of the secondary school-age population was absorbed in 1955 and 1960, and more than 29 per cent (of the 13 to 18 year olds) in 1970. However, consulting data from the Ministry of Education of the Dominican Republic concerning the number of students enrolled, we find that in 1970, not five per cent but 14.1 per cent of the school-age population was enrolled. Thus, the absorption of the school-age population was duplicated for that decade and did not increase six-fold as would seem from Solari's data. The enrollment in the secondary sector grew from 53,200 students in 1960 to 111,700 in 1970.

The enrollment in Nicaragua for 1960 also seems to be somewhat underestimated in Solari's data; according to UNESCO data (Minesla/ref/2) the absorption for that year was 6.9 per cent (11,400 students). But in the case of Nicaragua, a very notable growth was produced in secondary enrollment (in fact the highest in the area for that decade), since in 1970, 51,400 students were registered in secondary school, with an annual rate of growth for the decade of sixteen per cent.

TABLE 64: RATES OF SECONDARY SCHOOLING AND RATES OF ILLITERACY FOR VARIOUS LATIN AMERICAN COUNTRIES AROUND 1970.

COUNTRY	Schooling rate	Age group (years)	% of population illiterate
Dominican Repub.	29.2	13 - 18	32.8
Mexico	29.1	12 - 17	23.8
Costa Rica	24.6	13 - 18	11.0*
Nicaragua	24.3	13 - 17	42.0
Equador	22.0	12 - 17	28.0
Brazil	21.9	12 - 18	33.5*
Panama	19.8	13 - 18	21.7*
Venezuela	19.0	13 - 18	?
El Salvador	18.0	13 - 17	42.0*
Cuba	18.0	15 - 19	?
Paraguay	16.5	13 - 18	20.0*
Chile	16.3	15 - 18	11.6*
Bolivia	15.0	12 - 17	60.2*
Honduras	13.8	14 - 19	43.0*
Guatemala	10.7	13 - 18	55.0*
Haiti	4.0	13 - 19	78.0

Source: UNESCO: Evolucion reciente de la educacion en America Latina; Volumes III, IV, V, VI, VII; SepSetentas, Mexico, 1974.

(*) Estimations

Enrollment in Mexico is somewhat underestimated, as is the percentage of absorption (Solari's data report 470,000 students enrolled, whereas in fact 512,000 were enrolled in 1960; the rate of absorption was 12.5 per cent of the school-age population). For 1970, UNESCO reports an absorption rate of 29.1 per cent, while calculations done by the Centre of Educational Studies in Mexico with data from the Ministry of Education indicated a more realistic figure of 26.3 per cent.

The rate of secondary schooling in Chile according to UNESCO data seems to be a rather large underestimation. Apparently for these calculations the data consider not the total of secondary enrollment but only some of the grades (see for example, the calculation of total enrollment in Table 5 of Vol. 4, page 143, of UNESCO's Evolucion reciente de la educacion en America Latina; SepSetentas 232, Mexico, 1974. Only four of the six grades of secondary schooling are considered here). There are problems here related to the changes produced in the formal organization of the primary cycle; by the Educational Reform this was extended to a total of eight years. The UNESCO data discounts in calculating secondary enrollment, the first two years, counting them as primary schooling.

We could continue pointing out errors for the rest of the countries. But this is not the case and we will only point out that it is necessary to be very cautious with educational data in order not to make false inferences. All that can be concluded with certainty is that the growth of enrollment has been very high in both the 1950-1960 decade and the 1960-1970 decade.

It is important to insist again that the accelerated growth in secondary enrollment occurs independently of the existence of high rates of illiteracy, which certainly indicates that the formal educational system operates not as an agency for the democratization of the society, but on the contrary as one of the most important elements for reaffirming the social distance between various social strata.

In those countries with more developed educational structures, which are, in turn, the more industrialised, more urbanised and generally constitute relatively more open societies, (Argentina, Uruguay, Chile, Panama, Cuba, Costa Rica), secondary education operates in a less discriminatory way, since the school-age population is almost completely incorporated into the primary cycle. Although the rates of graduates still do not approximate the desired values, the transition between the primary and secondary levels is more articulated.

On the contrary, in those countries that still have between one-fourth and more than one-half of the population illiterate, with low rates of primary schooling, with occupational structures concentrated mainly in the primary sector of the economy, and which are the majority of the Latin American countries, the high percentages of secondary schooling indicate that this is a privilege of the more favoured classes of the society, and that education serves the purpose of increasing the distances first between the urban and rural sectors and then between the different social strata.

Nicaragua, (which in 1970 had 57.9 per cent of the population residing in rural zones, 56 per cent of the population employed in the agricultural sector, 42 per cent of the 15 year-olds and over illiterate, and a rate of schooling where the greatest entry into the primary school system was at 8 years-old) had an annual growth in enrollment between

160 and 1970 of 7 per cent for the primary level, 16.2 per cent for the secondary and 21.0 per cent for the higher level. We do not see how this indicates an opening of the educational system consistent with a strategy for the greater democratization of the system. Obviously, rennovating principles are not at play here, but rather simply those "forces of the market" that we mentioned when analysing the illiteracy distribution in Mexico are left to operate.

The same could be said for the Dominican Republic (32.8 per cent of the population illiterate, 61.6 per cent residing in rural zones, 60 per cent employed in the agricultural sector, 86 per cent desertion in primary rural schools and 70 per cent for the country as a whole). It could be said for Mexico, to a lesser degree, and for Equador (54.7 per cent of the population being rural; 31.7 per cent employed in agriculture, 3.4 per cent annual growth rate of the population, 28 per cent of the population illiterate, 5.6 per cent growth in primary enrollment, 12.6 per cent growth in secondary enrollment and 14.5 per cent growth in higher enrollment).

The political meaning of the growth of the educational system does not then guarantee a minimal and obligatory right of elementary education for everyone. Nor do the economic requirements make education functional for the labour market. The latter is clearly seen when the composition of the secondary enrollment is analysed, and it is observed that the immense proportion of this corresponds to that part of the secondary system which does not have an end in itself but rather serves as a prerequisite for entering the higher cycle, the baccalaureate.

In spite of the changes in the structures of the economic system due to industrialization in Latin America, the enrollment in secondary education tends to maintain still the character of the traditional systems, where the baccalaureate is synonymous with education of the future elites which will later enter university.

Thus growth in enrollment in technical or vocational schools is slow and both types of education still carry the stigma of being inferior to the baccalaureate. At times the educational structures reinforce the stigma, making technical studies terminal and of a sub-professional type.

The case of Argentina, which will be analysed in detail later on, reflects the more dynamic and functional effects that both the occupational structures and the legal dispositions have in breaking the sterotypes associated with one or another type of system. Students of commerce within the vocational system, for example, have, within the secondary system, not only the same rights of access to higher education but also receive diplomas of a sub-professional type. A commerce specialist has no restrictions to entering, for example, the faculty of economics, or of arts, or law.

The principal problem of secondary education in Latin America then is not so much the incorporation of greater proportions of the population but rather the retention of those that are incorporated, and making secondary education something more than a simple period of passage to university. The secondary school should have an end in itself. That is

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TABLE 65: ENROLLMENT DISTRIBUTION IN SECONDARY EDUCATION BY TYPE OF EDUCATION, FOR VARIOUS LATIN AMERICAN COUNTRIES (PERCENTAGES), 1961.

COUNTRY	Bachillerato	Vocational	Normal
Argentina	25.3	50.5	24.2
Bolivia(1)	70.6	19.9	9.5
Brazil	73.4	18.9	7.7
Chile	70.1	27.3	2.6
Colombia	63.4	33.1	3.5
Costa Rica	80.2	15.3	4.5
Cuba	61.5	33.7	4.8
Dominican Rep.	60.6	38.7	0.7
Equador	58.2	31.4	10.4
El Salvador	62.8	25.5	11.7
Guatemala	77.9	11.7	10.4
Haiti(1)	77.6	21.4	1.0
Honduras	78.7	14.0	7.3
Mexico(1)	54.3	32.7	13.0
Nicaragua(2)	53.5	27.4	19.1
Panama	67.4	30.4	2.2
Paraguay	55.9	15.5	18.6
Peru(1)	80.1	19.9	-
Uruguay	76.3	20.3	3.4
Venezuela	59.2	25.0	15.8

Source: Aldo Solari, *op. cit.*, from UNESCO, *Statistical Yearbook*, 1963.

(1) 1960

(2) 1959

it should have functionality. But the prevailing tendencies in the majority of the countries are towards a continuation of the traditional schemes. There are notable exceptions and the attempts at change that were introduced in Mexico with the Educational Reform of 1973, are an experiment that can lead to an important change in the role of the secondary school in the community.

With regard to the internal efficiency of the system, secondary education has the same problems as primary education: it inherits the schooling delays of the students, repeating is very high, and desertion rates very elevated.

From the data available for some countries of the area, it can be observed that the average rate of abandonment of the basic cycle of secondary schooling is quite a lot higher (almost double) than that of the specialization cycle (33.6 per cent desertion in the basic cycle and 18.5 per cent in the higher cycle). The pattern of abandoning the school is similar to that of primary school desertion: the greatest mortality occurs in the first couple of years. In those countries where the higher cycle of secondary schooling is physically separated from the centres providing the basic cycle, the pattern is repeated, there being a greater percentage of school desertion than when the division between the basic cycle and the specialization cycle is a simple label indicating the passage from third to fourth year.

Since we do not have available data for all of the countries of the area, we will present here an analysis of the cases of Argentina, Venezuela, and Mexico, which although not representing the spectrum of the regional differences in Latin America, serve to illustrate with greater detail the characteristics of secondary education in the area.

TABLE 66: EVOLUTION OF A GROUP OF 1000 STUDENTS THROUGH THE BASIC AND HIGHER CYCLE OF SECONDARY EDUCATION, IN SIX LATIN AMERICAN COUNTRIES.

	Basic Cycle				Higher Cycle		
COUNTRY	1	2	3	4	1	2	3
Argentina	1000	742	660	-	1000	861	-
Brasil	1000	845	743	664	1000	829	773
Costa Rica	1000	776	670	-	1000	915	-
Equador	1000	806	748	-	1000	928	856
Panama	1000	837	722	-	1000	868	771
Venezuela	1000	684	550	-	1000	766	-

Source: UNESCO: Evolucion reciente de la educacion en America Latina, op. cit.

1. THE CASE OF ARGENTINA

The enrollment in secondary education in Argentina during the years 1950 and 1960 grew very significantly. The annual growth of the population between 13 and 18 years for the period 1952-1965 was 1.83 per cent. For this same period the annual expansion in secondary enrollment was on the average 6 per cent. For 1960, one out of every four youths between 13 and 17 years old was enrolled in the secondary level of education. Between 1960 and 1970, the annual rate of growth in enrollment maintained almost this same rhythm (5.6 per cent). For this same period in the other levels of the system, the growth rates were noteworthy for pre-primary enrollment (10.2 per cent), quite a bit lower for primary (1.3 per cent) and regular for higher education (1.8 per cent).

Between 1950 and 1960 the number of students enrolled in secondary education has almost doubled. The most important increases took place in the Patagone (140 per cent) and the Pampa zone (92 per cent).

TABLE 67: ENROLLMENT IN SECONDARY EDUCATION PER EVERY 10,000 INHABITANTS, FOR DIFFERENT REGIONS OF THE COUNTRY. 1950, 1955, AND 1960.

REGION	1950	1955	1960
Capital	193	244	351
Pampas	90	147	173
Cuyo	106	149	178
Northwest	88	121	148
Northeast	70	92	131
Patagone	47	79	113
National Total	112	153	190

Source: CONADE, op. cit.

TABLE 68: RELATIVE PERCENTAGE INCREASE IN THE PROPORTION OF ENROLLMENT IN REGULAR SECONDARY EDUCATION (BACCALAUREATE, NORMAL, COMMERCIAL) FOR EVERY 10,000 INHABITANTS, FOR DIFFERENT REGIONS OF THE COUNTRY. 1950-1955; 1955-1960; AND 1950-1960.

REGION	1950-1955	1955-1960	1950-1960
Capital	26.6	43.5	81.9
Pampa	64.7	17.6	92.2
Cuyo	40.2	19.8	67.9
Northwest	47.2	22.4	68.2
Northeast	32.1	42.6	87.1
Patagone	70.0	42.8	140.4
National total	36.8	24.2	69.6

Source: CONADE, op. cit.

Secondary education in Argentina is made up of the baccalaureate, special baccalaureate, normal, commercial, industrial, professional, agricultural, and assistants. The duration of the studies varies between five and six years.

The Baccalaureate provides a general formation and preparation for entrance to the university. There are baccalaureates of five and six years, with a common basic cycle of three years and two or three years of a higher cycle. The minimum age of entrance is 12 years for the daytime establishments and 16 years for night schools.

The Special baccalaureates in general follow the same lines as the baccalaureate, special emphasis being placed on arts, humanistic or scientific formation. Few specialize in agriculture, commerce, and art, except with a full basic formation. Duration is usually six years, but in some cases it is five or seven years.

The Normal school specializes in the training of primary school teachers. It lasts five or six years.

The Commercial school offers a training for administrative and commercial jobs. They last five to six years.

The Industrial schools specialize in technical training, with a large number of specialities from mechanics, construction, communications, metallurgy, electricity, chemistry, electronics, textiles, aviation, petroleum elaboration, graphic arts, to such subjects as wrought iron, gold or silver work, topography, and optometry. There are two kinds, terminal (which are a unit in themselves) and propaedeutic (which offer the possibility of continuing with higher studies). Those schools destined to the training of assistants provide a 1 to 4-year programme, while those destined to the formation of secondary-level technicians offer a 5 to 8-year programme.

The Professional schools are a residual kind, offering a diversity of careers for women in activities of an artesanal type, related to dress-making, home management, hairdressing, advertising art, cosmetology, etc. In recent years they have been incorporating into these schools practical training for administrative and commercial and technical-industrial jobs.

The Agricultural schools train people for work in the primary sector of the economy. As with the Industrial schools, there are two kinds of studies:

a. studies lasting between 1 and 4 years providing a specific formation (agricultural training, practical agriculturalist, floriculturist) and

b. longer cycles that allow for continuing studies on the higher level (agricultural experts, cattlemen, agricultural mechanics, etc.). These studies last from five to six years.

The Assistants schools provide studies for the training of nurses and medical assistants (radiology, gynecology, pediatrics, etc.). These studies last three or four years and are terminal.

The enrollment distribution according to these various types of secondary education shows more accent on those studies that lead to higher education. The tendency is towards an accentuation of the normal and commercial specialities to the detriment of the industrial and professional ones. Between the years 1952 and 1965 the following changes in the enrollment distribution were registered:

TABLE 69: ENROLLMENT DISTRIBUTION ACCORDING TO TYPE OF STUDY ON THE SECONDARY LEVEL. 1952, 1957 AND 1965.

TYPE	1952	1957	1965
Baccalaureate	23.6	25.2	20.9
Special bacca.	1.1	1.0	2.5
Normal	18.0	24.2	23.8
Commercial	18.3	18.1	22.9
Sub-total	61.1	68.5	70.1

Table 69 continued

TYPE	1952	1957	1965
Industrial	21.2	15.8	14.7
Professional	16.0	13.8	13.2
Agricultural	0.4	0.3	0.5
Assistantial	0.8	1.0	0.7
Sub-total	38.3	10.9	29.1
Artistic	0.6	0.6	0.8
TOTAL	100.0	100.0	100.0

Source: CONADE, *op. cit.*

From 1952 to 1965 the tendency has been towards a greater concentration of the secondary school population in the common specialities (particularly in Normal and Commercial) at the cost of industrial and professional education and the baccalaureate. Unfortunately we do not have data that distinguish between industrial schools offering continuation to higher studies and those offering terminal careers. It is very possible that the decrease in enrollment - introducing this variable - takes place mainly in the terminal studies. As will be analysed later on undertaking a regional analysis, the schooling rates in the industrial schools are quite high in industrial zones.

1. REGIONAL ANALYSIS

Dividing the country into regions, the secondary schooling rates vary considerably, from the Federal Capital (which has the highest rate, of 56 of every 100 children between the ages of 13 and 17 attending secondary school in 1960) to the northeast where 12 of every 100 young people attend secondary school.

TABLE 70: RATES OF SECONDARY SCHOOLING, BY TYPE AND REGION (1960).

		TYPES		
REGION	Secondary schooling rate	Common	Industrial	Professional
Capital	56.4	43.8	10.6	1.9
Pampas	23.8	17.5	3.6	2.7
Cuyo	18.7	14.1	2.5	2.1
Northwest	15.5	10.6	1.9	3.0
Patagone	12.6	9.7	2.3	0.6
Northeast	12.3	9.6	1.5	1.2
National total	24.9	17.8	3.7	2.4

Source: CONADE, op. cit.

Breaking up the enrollment in each one of the regions (Table 71), we note that in the more backward regions (northeast and northwest especially), the greatest proportion of enrollment is concentrated in the normal schools. Here the composition of enrollment corresponds to the necessities of an environment characterized by relatively high rates of illiteracy and low rates of primary schooling. The percentage of students enrolled in industrial schools are in turn the lowest in the country. On the contrary, in the capital zone enrollment in industrial schools is quite high (double that of the less developed regions) at the same time that enrollment in normal school is almost half that of the less developed zone already mentioned.

TABLE 71: PERCENTAGE OF SECONDARY SCHOOL STUDENTS ENROLLED IN VARIOUS TYPES OF EDUCATION, ACCORDING TO REGION. (1960).

Region	Total	Bacca.	Normal	Comm.	Sp.Bacc.	Prof.	Indus.	Art
Capital	100.0	26.0	17.8	26.3	2.9	4.7	21.5	0.8
Pampas	100.0	21.1	23.5	20.7	0.7	15.2	16.2	2.6
Cuyo	100.0	16.3	29.3	19.4	2.4	16.7	14.5	1.4
Patagone	100.0	29.5	21.1	24.5	1.2	7.2	14.0	2.3
Northeast	100.0	18.3	35.8	17.1	0.4	14.9	10.9	2.6
Northwest	100.0	15.9	20.7	15.4	1.5	22.8	11.9	1.8

Source: CONADE: *op. cit.*

Females (who occupy almost the total of the enrollment in normal and professional schools), except in the Capital and in the Patagone, continue attending in important percentages, the professional schools, particularly in the northwest region.

Attendance at commercial baccalaureate schools has almost the same weight as the baccalaurete in number of students enrolled, making up 1 of every 4 students in secondary school in the Capital and in the Patagone.

The efficiency of the secondary cycle of education suffers from the same problems that appear in the primary cycle: chronological delay, repeating, and desertion. To these are added those problems that are specific to this cycle given the characteristics of structuration of the cycle by specializations, especially the excessive concentration in those specializations that do not have an end in themselves but only represent the requisite for university entrance.

Chronological delay is a consequence of the accumulation of the delay in the primary cycle plus repetition in the secondary cycle. We do not have data to evaluate the magnitude of this, although it can be expected that it would have characteristics similar to the chronological delay of Uruguay.

School drop-out is in overall terms somewhat less acute in secondary schools than in primary schools, although when discriminated by region of the country, it presents singular characteristics. (The rate of graduates from the primary cycle is higher than the rate of graduates from the secondary level in the developed regions of Argentina, while the inverse happens in the less developed regions).

In the most undeveloped zones, the percentages of graduates from secondary school in relation to graduates from primary school almost doubles.

TABLE 72: PERCENTAGES OF GRADUATES OVER ENROLLMENT IN THE SECONDARY AND PRIMARY CYCLES OF EDUCATION, BY REGION. ARGENTINA. 1961-1962.

REGION	Percentage of graduates Primary	 Secondary
Capital	50.43	44.22
Pampas	56.24	51.91
Cuyo	44.55	48.86
Patagone	39.98	33.92
Northwest	27.81	33.92
Northeast	27.76	49.61
NATIONAL TOTAL	48.9	51.4

Source: CONADE: op. cit.

The first plausible hypothesis that arises, although there are no elements to prove it, is the following.

In the more developed regions, a series of factors coincide to make access to primary school and retention of the students more efficient than in the undeveloped regions. At the same time, the schooling rate in the secondary level is not only higher, but also access to secondary school is more open. That is, the composition by class is more heterogeneous. Children coming from the less favoured strata (who make up a more important segment of the school population in developed zones than in undeveloped zones) will have a higher probability of failure than children coming from more favoured strata. Consequently, the rates of desertion will appear to be greater in developed zones on the secondary level than on the primary level.

In the more backward regions, where entrance to secondary school is more differential by social class, the class composition of secondary school is more elitist and therefore more homogeneous; there are fewer children from the poorer strata of the population and these are those that account more strongly for the rates of school failure. For the children of the middle and upper strata the pressures at home to complete the cycle are stronger, as well as are the controls to avoid early desertion. Thus although in absolute terms the undeveloped regions represent smaller proportions in terms of schooling rates by region, in terms of efficiency of the system they manifest better "yield" than the developed area.

There is of course a series of factors that do not appear here, and that complicates the situation. Some of these factors are of a purely statistical nature. (For example, the utilization of geographic criteria places very heterogeneous provinces in the same region. A reclassification of the regions in terms of economic and social characteristics would permit a better appreciation of the effect of structural variables on the efficiency of the secondary cycle). Other factors are of a more substantive character, and have to do with scholastic and extra-scholastic characeristics. Perhaps what deserves to be noted from this data is that which we pointed out above concerning the intrascholastic and extrascholastic effects on analysing school desertion in Latin America. It would seem that the extra-scholatic characteristics play a much more important role than the intrascholastic in the determination of the efficiency rates of the school system.

In a similar way to the primary school, the greater desertion rates do not occur so much between levels, but rather between grades early in one level. Even the passage between the basic period and the specialization period produces an important drop in the rate of promotion within the secondary cycle.

TABLE 73: RATES OF PASSING, REPEATING AND DESERTION IN THE SECONDARY CYCLE OF EDUCATION, DISCRIMINATED BY GRADE. ARGENTINA.

GRADES

	I Bas.	II Bas.	III Bas.
Pass	67.7	81.5	83.9
Repeat	11.8	9.0	7.7
Desertion	20.5	9.5	8.4

	IV			V			VI		
	Bacc.	Norm.	Comm.	Bacc.	Norm.	Comm.	Bacc.	Norm.	Comm.
Pass	79.7	91.6	89.3	83.8	91.8	9.15	85.7	99.1	80.3
Repeat	6.0	4.5	5.0	1.7	1.8	2.2	2.4	0.1	1.6
Desertion	14.3	3.9	5.7	14.5	6.4	6.3	11.9	0.8	18.1

Source: CONADE: op. cit.

Note: For Grade V, we added the passing rates and the graduation rates, as there are schools that continue the cycle until sixth grade.

School desertion declines here to 20.5 per cent in the first grade of the basic cycle to 8.4 per cent in the third grade. At the beginning of the specialization cycles, the normal school presents the more efficient percentages, followed by commercial school. Desertion in the baccalaureate is quite high and almost stable.

There are surely at play the problems of incorporation into the labour market. The title of baccalaureate, although it can play an important role in determining salaries, is not so determinant for entrance into the labour market. On the contrary, the only way to enter teaching is with the title of "teacher". Thus the investment for those enrolling in normal school is only profitable on completing the cycle, if one intends to become a teacher.

The same occurs with comerical education; entrance into the labour market implies substantial salary differences. The high rate of desertion in the sixth grade of commercial education could be the result of two types of phenomena; one represented by the students that change their registration to avoid an extra year. (By means of the change in registration in the fifth year of studies and by passing some special subjects, some students in these special schools with six years duration obtain their degrees of Bachilor of Accounting "peritos mercari tiles".) The other phenomenon could be early access to the labour market, although we believe that this is the least important of the two.

With repetition of a year a similar pheonomenon occurs. In the first year, 11.8 per cent of the students repeat the grade, the percentage of repeaters decreasing at least two per cent in successive years. Here the type of specialty does not seem to have significant relevance (except in the sixth year of normal school).

Analysing the percentages of definitive desertors through the various grades, by region and for primary and secondary cycles, we can observe that the greatest rates of desertion are produced in the first years, and that desertion in the first year of secondary school is produced mainly in the passage from first to second year.

For the country as a whole, almost two-thirds (64.4 per cent) of the students that drop-out do so in the first two years. The highest rates of concentration of desertion occur in the Patagone, where 86 per cent of the drop-outs abandon school before passing the third grade. From then on, for the fourth, fifth and sixth year, the desertion rates in the Patagone are the lowest, although as we saw earlier, the overall desertion rates for the region are amongst the highest in the country.

In the Capital, desertion takes place in a more gradual form, since although a little more than half the students drop out in the first two years, the drop-outs tend to have a higher amount of schooling. For the rest of the country, almost two-thirds of the drop-outs leave before finishing the second grade.

The regional differences respecting the production of graduates according to cycle and region, appear clearly when the Capital region is taken as optimum. Both on the primary and secondary levels, the Capital and Pampa zones show the most favourable indices of functioning of the

TABLE 74: PRIMARY AND SECONDARY EDUCATION. DISTRIBUTION OF DEFINITIVE DESERTORS FOR DIFFERENT GRADES OF PRIMARY SCHOOL AND COMMON SECONDARY SCHOOL (BACCALAUREATE, NORMAL, COMMERCIAL), BY REGION. ARGENTINA. 1961-1962.

REGION	CYCLES	GRADES							TOTAL
		1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	Grad.	
		1 to 2	2 to 3	3 to 4	4 to 5	Grad.			
CAPITAL	Primary	29.6	15.7	15.0	13.6	12.5	4.4	2.2	100.0
	Secondary	39.8	14.3	18.7	9.1	17.5	-	-	100.0
PAMPAS	Primary	31.2	7.5	9.2	16.2	15.9	15.4	4.7	100.0
	Secondary	50.5	18.3	13.4	10.2	7.5	-	-	100.0
CUYO	Primary	29.6	11.7	8.8	16.7	15.7	12.7	4.7	100.0
	Secondary	42.1	14.8	12.6	6.2	14.3	-	-	100.0
PATAGONE	Primary	34.5	13.0	13.3	12.1	13.9	10.0	3.2	100.0
	Secondary	62.3	23.7	9.1	4.3	0.6	-	-	100.0
NORTHWEST	Primary	35.7	14.5	14.1	13.3	11.9	7.9	2.7	100.0
	Secondary	49.7	24.6	7.9	0.9	8.9	-	-	100.0
NORTHEAST	Primary	33.4	18.7	12.3	16.3	9.4	8.4	1.3	100.0
	Secondary	47.9	16.5	12.4	10.9	12.3	-	-	100.0
NATIONAL TOTAL	Primary	31.3	12.1	12.2	16.1	13.3	11.7	3.3	100.0
	Secondary	47.9	16.5	12.4	10.9	12.4	-	-	100.0

Source: CONADE: op. cit.

system in the country, while the poorest indices are found in the northern regions. The accumulative character of the educational problems are clearly noted, even when the national values are used as parametric values for the comparison. We have already seen in the analysis of illiteracy in Argentina that the northern region presented the highest indices of illiterate population. Now we see that the efficiency of the primary school regarding the production of graduates is more or less half, while that of the secondary level is approximately 40 per cent.

TABLE 75: PRODUCTION OF GRADUATES IN THE PRIMARY CYCLE AND IN THE SECONDARY CYCLE WITH RESPECT TO THE OPTIMUM REGION.

REGION	PRIMARY	SECONDARY
Capital	100.0	100.0
Pampas	111.5	95.6
Cuyo	88.3	73.8
Patagone	79.3	51.2
Northwest	55.1	38.0
Northeast	55.1	41.6

Source: CONADE: op. cit.

2. THE CASE OF VENEZUELA

The Venezuelan secondary cycle is structured similarly to that of Argentina, that is, it is composed of three types: baccalaureate, Normal, and Technical. One difference is that the Commercial speciality is included in the Technical. Since 1969, two divisions have been established in the cycle: the basic (lasting three years) and a specialization for the last two years. Almost 80 per cent of the secondary schools depend on the state and are therefore free.

The expansion of secondary enrollment in Venezuela is amongst the greatest in Latin America between 1960 and 1970, and in the country itself was surpassed only by the growth in university enrollment. The annual growth rates between 1960 and 1970 for the various cycles were as follows.(4)

Preprimary:	9.1
Primary :	3.8
Secondary :	10.8
Higher :	12.6

For the secondary level, the schooling rates grew from some 13 per cent of the population attended to in 1960 to 19 per cent in 1970.

The problem of the functioning of the system are similar in Venezuela to those in the rest of Latin America, with some differences in terms of composition of the enrollment. Actually the growth in secondary enrollment in Venezuela was not identical for the various types, since the Baccalaureate and the Technical schools tripled their enrollment, while the Normal schools decreased their enrollment by 50 per cent.

For the 1968-1969 school period, the composition of the enrollment by type of education was as follows.(5)

Baccalaureate :	63.93
Technical :	32.85
Normal :	3.22
Total	100.00
	(387,604)

That is, there is an excessive concentration of enrollment in the baccalaureate programme. We suspect that the growth in technical enrollment is basically due to an expansion of enrollment in the commercial speciality, since this received half of the enrollment.

For the 1968-1969 years, the different specialities in the technical schools presented the following proportions of students.(6)

Artesanal :	11.1
Industrial :	30.7
Commercial :	50.2
Agricultural :	1.6
Musical :	2.4
Nursing :	2.1
Plastic arts :	1.6
Social Work :	0.3
	100.0
	(127,330)

Chronological delay in the Venezuelan secondary cycle is quite large and begins with the primary school. More than half of the students in the secondary cycle are one or more years behind. In the fifth and sixth grades of secondary school, the majority of the students are twenty years old or older. Table 77 presents data of students enrolled in the pre-school, primary, and secondary cycles, discriminated by age. It can be noted that from the first year of primary school there already exists more than 40 per cent of the students with chronological delay, rising in the third year to half of the students, and growing gradually to 60 per cent of the students in secondary school. It is noteworthy that in the sixth grade of secondary school, almost two-thirds of the students are older than twenty.

The repetition of grades in Venezuela has a distribution slightly different from that of the other Latin American countries. In general the rates of repetition are higher in the first years, tending then to decrease. In the Venezuelan case, the distribution has a normal curve, with the highest percentage of repeating students in the third year of the cycle, that is, at the end of the basic cycle.

TABLE 76: PERCENTAGES OF STUDENTS ENROLLED, PASSES, REPEATING AND DROPPING OUT, BY GRADE. 1967-68 SCHOOL YEAR. VENEZUELA.

	I	II	III	IV	V
Desertors	24.3	14.5	15.2	16.9	-
Repeaters	6.8	11.5	15.2	10.0	6.5
Passers	68.9	74.0	69.6	73.1	93.5
	100.0	100.0	100.0	100.0	100.0

TABLE 77: VENEZUELA: PRE-SCHOOL, PRIMARY AND SECONDARY EDUCATION. STUDENTS ENROLLED, CLASSIFIED BY AGE AND GRADE (1968-1969). (IN PERCENTAGES)

AGE	KINDER.	PRIMARY						SECONDARY					
		1	2	3	4	5	6	1	2	3	4	5	6
4	26.7	-	-	-	-	-	-	-	-	-	-	-	-
5	45.2	0.4	-	-	-	-	-	-	-	-	-	-	-
6	27.2	13.5	1.3	-	-	-	-	-	-	-	-	-	-
7	0.9	42.9	20.0	2.3	-	-	-	-	-	-	-	-	-
8	-	20.8	32.3	19.3	2.7	-	-	-	-	-	-	-	-
9	-	10.1	19.0	28.1	17.1	2.7	-	-	-	-	-	-	-
10	-	6.0	12.0	20.0	27.0	16.4	2.9	-	-	-	-	-	-
11	-	3.1	7.2	13.2	21.0	26.4	16.7	2.7	0.2	0.0	-	-	-
12	-	1.9	4.5	8.7	15.1	22.6	27.1	12.8	2.6	0.1	0.0	-	-
13	-	0.8	2.3	4.9	9.4	16.2	23.2	21.7	14.4	2.3	0.1	-	-
14	-	0.4	1.0	2.4	5.0	9.5	16.4	19.7	23.4	13.6	2.3	0.1	-
15	-	0.1	0.3	0.8	1.9	4.2	8.7	14.4	10.2	21.8	14.0	2.6	-
16	-	0.0	0.1	0.1	0.6	1.5	3.5	9.9	14.6	20.1	21.4	15.5	0.1
17	-	0.0	0.0	0.1	0.2	0.4	1.1	5.9	9.2	15.5	19.5	22.7	5.3
18	-	0.0	0.0	0.0	0.0	0.1	0.3	3.8	5.6	10.3	15.0	10.4	12.1
19	-	0.0	0.0	0.0	0.0	0.0	0.1	2.5	3.2	6.0	9.5	14.2	16.9
20+	-	-	-	-	-	-	-	6.6	6.6	10.3	18.2	24.5	65.6
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N:	(37007)	(395591)	(311570)	(297539)	(251920)	(197872)	(154701)	(152153)	(92239)	(68681)	(44713)	(29030)	(788)

Calculated on the basis of data of the Ministry of Education, Department of Planning, Caracas, Venezuela.

DELAY (percentage of students):

43.2	46.4	50.3	53.7	54.5	53.3	62.8	59.4	62.2	60.2	59.1	82.5

TABLE 78: VENEZUELA: PERCENTAGE OF STUDENTS REPEATING, BY YEAR OF STUDIES, FOR DIFFERENT ACADEMIC YEARS. BACCALAUREATE AND NORMAL SCHOOLS.

BACCALAUREATE

School Year	General Total	Year of Study				
		First	Second	Third	Fourth	Fifth
1960-1961	6.9	6.4	7.8	10.0	5.5	2.4
1961-1962	7.6	6.4	8.9	11.0	6.3	4.0
1962-1963	9.2	7.1	10.6	13.9	8.5	6.3
1963-1964	9.2	7.2	10.1	13.9	8.8	6.5
1964-1965	10.2	7.5	11.6	14.8	9.8	8.3
1965-1966	9.4	7.3	10.5	14.0	8.9	5.6
1966-1967	8.3	6.0	9.4	12.6	8.1	5.4
1967-1968	8.6	6.4	9.9	12.6	8.5	5.4
1968-1969	9.0	6.4	10.5	13.5	8.9	5.7

NORMAL

School Year	Total	First	Second	Third	Fourth
1960-1961	5.1	5.8	5.9	3.7	1.9
1961-1962	6.5	6.9	10.6	4.6	0.9
1962-1963	7.7	6.0	12.2	9.5	2.5
1963-1964	6.5	4.9	11.0	10.4	1.5
1964-1965	4.9	2.3	8.0	8.8	2.0
1965-1966	5.0	2.8	6.8	7.3	3.6
1966-1967	3.3	1.9	5.2	4.8	1.6
1967-1968	4.2	2.6	5.9	5.8	1.8
1968-1969	3.9	2.1	5.7	5.3	4.3

Source: Office of Planning, Ministry of Education: Caracas, Venezuela, 1970. (In Spanish)

TABLE 79: VENEZUELA: SCHOOLING CONTINUATION FOR DIFFERENT PERIODS, IN THE NORMAL AND BACCALAUREATE PROGRAMMES OF SECONDARY EDUCATION. PERCENTAGES THAT CONTINUE.

NORMAL

Period	First	Second	Third	Fourth
1958-1961	100.0	92.2	84.0	75.6
1959-1962	100.0	86.2	71.7	60.7
1960-1963	100.0	87.8	76.6	65.7
1961-1964	100.0	92.1	82.9	74.1
1962-1965	100.0	87.9	86.0	77.6
1963-1966	100.0	92.0	83.5	74.0
1964-1967	100.0	79.5	73.5	59.9
1965-1968	100.0	84.4	81.1	64.3
1966-1969	100.0	81.4	83.8	62.9

BACCALAUTEATE

Period	First	Second	Third	Fourth	Fifth
1956-1960	100.0	63.9	58.5	48.4	40.5
1957-1961	100.0	79.0	68.1	55.2	44.4
1958-1962	100.0	73.8	63.2	50.0	39.0
1959-1963	100.0	73.6	61.9	48.3	36.8
1960-1964	100.0	72.0	59.0	46.6	34.9
1961-1965	100.0	70.4	56.3	46.4	34.1
1962-1966	100.0	70.4	58.2	45.8	35.3
1963-1967	100.0	71.4	59.0	47.4	36.6
1964-1968	100.0	74.1	60.2	48.6	38.0
1965-1969	100.0	73.9	62.9	51.0	40.2(*)

Source: Office of Planning, Ministry of Education, More and Better Education, Caracas, Venezuela, 1970 (in Spanish)

(*) estimated.

TABLE 80: VENEZUELA: SCHOOL FAILURE RATES IN THE NORMAL AND BACCALAUREATE PROGRAMMES OF SECONDARY EDUCATION.

NORMAL

Period	1st to 2nd grade	2nd to 3rd grade	3rd to 4th grade
1958-1961	7.8	9.0	10.0
1959-1962	13.7	16.8	15.3
1960-1963	12.2	12.7	14.3
1961-1964	7.9	10.0	10.6
1962-1965	12.1	2.1	9.7
1963-1966	8.0	9.2	11.4
1964-1967	20.5	7.5	18.5
1965-1968	15.6	4.0	10.7

BACCALAUREATE

Period	1st to 2nd grade	2nd to 3rd grade	3rd to 4th grade	4th to 5th grade
1956-1960	36.1	8.5	17.1	16.4
1957-1961	210	13.8	18.9	19.6
1958-1962	26.2	14.4	20.9	22.1
1959-1963	26.4	15.9	22.0	23.9
1960-1964	28.0	18.0	21.0	25.1
1961-1965	29.6	19.9	17.7	26.6
1962-1966	29.6	17.4	21.4	22.8
1963-1967	28.6	17.4	19.7	22.9
1964-1968	25.9	15.7	19.3	21.7
1965-1969	26.1	14.8	18.9	21.1(*)

Source: Office of Planning, Ministry of Education, Caracas, Venezuela, 1970. (In Spannish)

(*) estimated

Discriminated by type of education, it can be noted that between 1960 and 1969, the percentage of repeaters is higher in the baccalaureate than in the normal school, at the same time, the percentages of desertors tend to decrease in the normal school and to increase in the baccalaureate.

With respect to school desertion, at the secondary level, it can be noted that this is much higher than in Argentina, particularly owing to the fact that the desertion rate remains quite high after the first year. Following different groups of students for the normal school and the baccalaureate, we can observe that in the latter, the first year is the most difficult obstacle to overcome. Although the desertion rate for the first year has decreased from 36.1 per cent for the 1956-1960 group to 26.1 per cent for the 1965-1969 group, the drop-out rate for the second year has almost doubled for the same period. The drop-out rates for the fourth and fifth grades increase as well. On the contrary, in the normal school the drop-out rate between the first and second grade has doubled, while the rate between the second and third grades has decreased to less than half. We do not know the circumstances that explain the changes and the differences between the two types of education.

3. THE CASE OF MEXICO

In Mexico, as in the majority of the Latin American countries, the growth in secondary-school enrollment in recent years has been impressive. In contrast to the cases of Argentina and Venezuela, the growth in enrollment in technical schools has maintained a fairly strong rhythm, both in absolute and relative terms. However, the problems inherent in the growth of this cycle and the organization of it still reflect the fact that the secondary school lacks an end in itself. Rather it is an intermediary stage on the route to the higher level of the formal educational system.

Success in satisfying the demand has been constantly increasing, yet it still has not corresponded to the demographic growth in that age group (15 to 19 years). That is, although in relative terms the percentage of the population that is attending has grown from 10.5 per cent in 1955 to 26.3 per cent in 1970, the absolute numbers of youth not incorporated into the system has increased from 3,164,503 in 1959 to 3,737,000 in 1970.

The increase in non-attending population in absolute quantities results from two types of problems. Some are the consequence of problems of the primary school, and others are the result of the lack of expansion of the secondary school. Considering now not the rates of absorption of the potential demand (demographic secondary school-age population) but the rates of absorption of the real demand (graduates from primary school) we see that these latter rates are naturally quite a lot higher than the former.

Although the figures in Table 82 do not indicate exactly the satisfaction of the real demand (we would have to take into account the percentage of students enrolled in the first year that are repeating the grade) - they do give us a much more approximate general idea of the growth in enrollment on the secondary level.

TABLE 81: MEXICO: SATISFACTION OF POTENTIAL DEMAND FOR SECONDARY EDUCATION (15 to 19 YEARS). 1959-1970.

YEARS	Secondary school-age population (1,000's)	Percentage of demand satisfied
1959	3,535	10.5
1960	3,665	12.5
1961	3,779	14.4
1962	3,939	15.6
1963	4,083	17.3
1964	4,233	17.7
1965	4,361	20.4
1966	4,494	21.5
1967	4,631	22.2
1968	4,771	22.8
1969	4,916	25.6
1970	5,069	26.3

Source: I. del Camino y J. Munoz B.: "Educacion Secundaria en Mexico en los periodos 1959-1964 y 1965-1970", *Revista del Centro de Estudios Educativos*, No. 2, 1970, Mexico, D.F.

TABLE 82: MEXICO: SATISFACTION OF THE REAL DEMAND FOR SECONDARY EDUCATION. ABSOLUTE NUMBER OF PRIMARY SCHOOL GRADUATES AND TOTAL NUMBER OF STUDENTS ENROLLED IN THE FIRST YEAR OF SECONDARY SCHOOL. 1965 AND 1970.

YEAR	Graduates from 6th grade of primary school	Enrolled in 1st year of second. school
1965	489,404	336,808
1966	533,603	362,613
1967	586,837	371,667
1968	637,445	381,395
1969	687,885	459,737 (*)
1970	740,310	465,820 (*)

Source: I. del Camino and J. Munoz B, *op. cit.*

(*) Estimated

From this table it can be calculated that the satisfaction of the real demand tends to remain stable. Although apparently there is a decrease rather than an increase in this satisfaction, it must be remembered that the school dropout rates are lower for the 1968-69-70 period than for the 1965-66-67 period. Thus there is either stability or a light increase in satisfaction of real demand. Without calculating the percentage of repeaters, for the various years shown in the table, the maximum percentage of absorption occurred in 1965 (68.8 per cent of the primary school graduates), and following years showed the following fluctuations: 1967: 68 per cent; 1968: 63.3 per cent; 1969: 66.8 per cent; 1970: 62.9 per cent.

Since 1973, with the multiplication of technical schools of the agricultural, fishing and industrial type, it is possible that secondary enrollment has increased substantially, particularly absorbing the school age population in rural zones and in small cities where formerly such kinds of educational services did not exist.

As can be observed in Table 83, the growth in secondary school enrollment when discriminated by type of education, presents special peculiarities.

The first noteworthy observance is the growth in the baccalaureate or general secondary. Although since 1965, the data in the table combine general secondary (baccalaureate) and technical secondary into the basic cycle, adding the values of these columns to the values corresponding to general preparatory (in fact the higher cycle of the baccalaureate) -

TABLE 83: DISTRIBUTION OF ENROLLMENT IN SECONDARY EDUCATION, BY TYPE OF EDUCATION, 1959 TO 1970. MEXICO. IN PERCENTAGES.

YEARS	General Secondary	Technical Secondary	Special	Commercial	Normal	General Prep.	Technical Prep.	TOTAL
1959	44.9	2.1	10.8	17.0	11.5	11.2	2.5	100.0
1960	49.7	1.9	9.1	15.3	10.5	11.4	2.1	100.0
1961	48.9	1.6	11.0	13.3	12.7	10.7	1.8	100.0
1962	53.5	1.5	10.7	12.1	9.7	10.5	1.0	100.0
1963	55.7	1.7	10.9	10.6	9.3	9.3	1.5	100.0
1964	55.6	2.0	10.0	10.3	9.1	9.6	3.4	100.0
1965	61.0		11.4	9.8	6.4	8.5	2.9	100.0
1966	62.0		11.2	9.1	5.5	9.3	2.9	100.0
1967	63.1		7.9	9.7	5.2	10.6	3.5	100.0
1968	63.6		7.6	9.3	4.1	11.7	3.7	100.0
1969	65.8		6.6	7.5	3.9	12.2	4.0	100.0
1970	63.9		7.8	7.7	3.9	12.6	4.1	100.0

Source: I. del Camino and S. Munoz, op. cit.

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we find that the baccalaureate absorbed 56.1 per cent of the secondary school students in 1959, and 76.5 per cent in 1970, although this last value is somewhat overestimated.

Just as dramatic a change - but in the opposite sense - is observed in normal and commercial schooling. The preparation of teachers for primary schools has decreased from a maximum of 12.7 per cent of the total of secondary school enrollment in 1961 to 3.9 per cent in 1970. Enrollment in commercial schools decreased at a less pronounced rate, but produced an equally large drop: from 17 per cent of enrollment in 1959 to 7.7 per cent in 1970.

Not only is the secondary cycle of education in Mexico organized by types of education, but also the distinction between terminal and non-terminal studies is clear. To begin with, there are two principal types of division: one that includes the first years and that could be called a basic cycle, and the other, called preparatory, which includes the last two or three years. The basic cycle includes only the general and technical secondary. The preparatory cycle includes general and technical studies which constitute the requisites for entering the universities or higher technical institutes. Thus the system is a kind of combination of the North American system (the basic cycle would be an extension of primary school) and the English system (with an early-established distinction between those who will enter university and those who will follow terminal or technical carrers).

Although Mexico does not have the kind of exam that in England divides the students into one or the other education "streams", subjective aspects do intervene (supposedly individual) in the personal selection of what sort of studies to follow. The resulting discriminatory character of enrollment in studies with greater or less social prestige and greater or less opportunity to enter the higher levels of education is affected by the educational expectations of the various social groups, and by the interrelations between aspirations, expectations, and the system of social norms and values regulating the selection.

We should add here that the structuration of the secondary cycle makes this depend on different groups and institutions, which impedes the organizational aspects of the system and connects it with different power groups. For example, the preparatory schools depend on the authorities of higher education, while the secondary schools depend on other appropriate organisms. The interests of one and the other group generally conflict, making the preparatory, which in structural terms is part of the secondary cycle, an appendage of the higher cycle in organizational terms. Frequently the universities include preparatory students in their calculation of the size of the universities - and, we would not be surprised, in their budgets.

Normal schools do not enter into this general schema, but are structured in a similar way, through their own organization in which are included higher studies of a short duration. For the years we are analysing, the normal schools were not subdivided into basic normal and preparatory normal. Rather, after three or four years of secondary education, a degree of a sub-professional type (teacher) is given. In general these constitute terminal studies, since they do not capacitate for university entrance nor for entrance to technical institutes, but only for higher normal school.

The normal school was traditionally the educational channel of social ascent for the middle and lower-middle classes, and carried high social prestige (as is still the case in Argentina). It offers access to the labour market, principally for the female sector. With increasingly easier access to higher education and with the loss of social prestige for the occupation of teacher, the normal school in Mexico holds little attraction. In addition, there is the difficulty of finding work, and the low salary levels which place teachers on the level of subproleterization. Consequently, the normal school is perceived neither as a mechanism of social ascent equivalent to what the common baccalaureate offers, nor as a channel of ascent to higher education, nor even less as terminal studies. It is more worthwhile to enroll in the baccalaureate since this opens the channels for expectations and aspirations to a higher level.

The decline of enrollment in commercial education is surely related to the problems of rising educational aspirations, and to the fact that the commercial specialities make up terminal studies of short and medium length, preparing students in specialities of low standing in administration and commerce. Contrary to the case of Argentina - where commercial studies are part of what could be termed the common baccalaureate, since graduates are in a situation of equality for university entrance in any field - the commercial speciality in Mexico is included in the technical area. This entails problems of stereotyping and social prejudice associated with activities of this kind.

Ever since the Educational Reform of 1973, and following the tendencies of change in enrollment in technical education, the latter has experience notable growth. This is due to a quite realistic policy to the Government, which tries to adapt basic regional necessities to the aspirations for better education on the part of the population. Greater flexibility in secondary education is sought, so that the option between joining the labour market and continuing with higher studies is a valid one for a greater proportion of the different types of education in this cycle. At the same time, the state takes a more dynamic position in the decisions concerning what type of specialities should be offered in different regions.

Technological education on the secondary level is structured around three major specialities, closely related to the economy: industrial technology, agricultural technology, and fishing technology. Agricultural technology is divided into two levels: Agricultural Technology Schools (ETA) equivalent to a basic secondary cycle but with specialization in agriculture and cattle; and the Centres of Technological, Agricultural and Forestry Studies (CETA and CETF) which correspond to the higher secondary cycle, offering terminal studies. This type of school is installed mainly in rural sectors and in small and medium-sized cities. In 1975, there were slightly more than 500 of these schools.

The Fishery Technology Schools have a similar organization, although the higher cycle (Centres of Education in Sciences and Technologies of the Sea) are propedeutic and facilitate entrance to specialized higher education. There are presently more than 30 of these schools providing the basic secondary cycle, and some five offering the higher level.

The older industrial technology schools in the Mexican educational system have a basic secondary cycle (Industroa; Technology Schools - BTI) and two kinds of higher secondary cycles, one terminal (Centres of Technological Studies), and one propedeutic (Centres of Scientific and Technological Studies). In 1975, there were about 300 of these industrial schools.

The growth of technological schools is taking place in spite of the resistance of small rural bourgousie that desire general secondary education for their children, and of the universities that regardless of the regulations, do not accept graduates of these schools. The intention of the authorities to favour incorporation of graduates of the various levels into the labour market is in good measure frustrated by a series of factors where both the productive structures and the aspirations to enter higher levels of the system play a part. Thus, the demands for the next higher level begin to be effective as soon as there are graduates from the lower levels. Those that do enter the labour market then are those students that have failed to achieve intermediate degrees.

What would very probably occur is that the graduates of the highest levels rather than integrating themselves into the productive system as technicians would do so as functionaries in the governmental administrative structures. In the present circumstances of the organization of rural production, these tendencies would be difficult or impossible to overcome, and the expected effect of growth in production due to innovations resulting from the efforts to train qualified personnal for the agricultural sector, will be very minimal as long as there do not exist means of accelerating the conversion of anarchical "ejidos" into cooperative systems of organization large enough that incorporating technicians into the system would be rational. The relationships between the agricultural school and its environment need this kind of structuration in order for their graduates to find a satisfactory labour market.(7)

In the case of the industrial technology schools, which cover basically the secondary and teritary sectors of the economy, the articulation to the environment is more functional to the actual system of production. The interaction among factories (both private and state) that regulates the demand for kind and quantity of graduates and specialities is closer; thies between the school and its environment are more organized. There are cases where industrial schools are located precisely in industrial zones, where the students do their apprenticing and where the market is nearby. The industrial school of Mexico is rapidly changing its specialities from artesanal activities to activities of a complex industrial nature. In the short run, no problems are foreseen in placing graduates either in salaried positions or in private practice.

With respect to fisheries, only as recently as 1970 have these schools started to operate. Although the tendency is for graduates of basic cycles to enter the higher cycle, the existence of fishing cooperatives and the rapid growth of this industry, together with the fact that there are only 30 fishing technology schools, mean that no problems are foreseen for these graduates entering the labour market.

The growth in technical school enrollment resolves, then, in part, those problems related to the need for the secondary school to have its own objectives rather than being simply a propedeutic cycle for higher education. But it only resolves these problems in part. The baccalaureate continues to incorporate the more significant proportions of the secondary school-age population. Until the problems related to the status of the normal and commercial schools are resolved, this tendency will continue to be dominant.

With regard to the internal efficiency of the system, this appears to be improving, although the data are rather inconsistent.

The rates of failure and drop-outs, which together indicate scholastic waste, have tended to decrease particularly for the year 1969, thereby seeming to indicate that the system has actually considerably increased its efficiency.

However, the fluctuations are large enough to indicate the probability that they reflect some kind of statistical manipulation or change of definitions on which the calculations are based, rather than being the result of modifications in the real achievement of the students. Actually, the conventional calculation of drop-outs and repeating rates

TABLE 84: ENROLLMENT IN SECONDARY EDUCATION, BY TYPE. SCHOLATIC WASTE 1958-1963 AND 1964-1969. MEXICO. IN PERCENTAGES.

	1958-1963		1964-1969	
Secondary				
Drop-outs	17.9	24.9	15.7	8.0
Failures	20.3	16.7	27.5	13.9
Passed	61.8	58.4	56.8	78.1
Normal				
Drop-outs	18.3	10.3	9.2	6.2
Failures	9.7	1.4	3.1	4.4
Passed	72.0	88.3	87.7	89.4
Gen. Prepar'y				
Drop-outs	23.6	18.0	17.4	10.4
Failures	25.8	29.2	30.1	12.6
Passed	50.4	52.8	52.5	77.0
Techn. Prepar'y				
Drop-outs	36.5	13.9	32.4	20.6
Failures	8.0	15.7	15.1	5.3
Passed	55.5	70.4	52.5	74.1

Source: Isidoro del Camino: op. cit.

generally do not take into account such factors as supplemental exams (often students that have failed a final exam but have not yet had the chance to do the supplementals are counted as failures). In cases of dropping-out, simply changing the dates on which the tabulations are made can substantially reduce the drop-out rate.

Thus although the 1969 data can be closer to "reality" they are directly not very comparable to those of earlier years, if they have been taken under different criteria. It is not very probable that the new students that enrolled between 1965 and 1969 were so superior in achievement in comparison with students of earlier periods. Nor have we noticed important changes in the teaching methods that would justify the observed modifications.

With regard to the different types of secondary education, we note that - as we observed in the Argentinian and Venezuelan cases - the achievement rates in normal school are much better than in the general and technical studies. We do not know the origins of such differences.

The differences in achievement between the basic secondary cycle and the technical and general preparatories indicate that the technical preparatory has the highest drop-out rates, while the basic cycle has the lowest (although not very different than those of general preparatory). An additional problem in the longitudinal comparison is the variation in the different years in both desertion and failure in secondary and in technical preparatory, which does not follow a pattern as in the case of general preparatory and normal.

FOOTNOTES

1. Data from UNESCO, in Evolucion reciente de la Educacion en America Latina, Vol. 2, SepSetentas 230, Mexico, 1974.

2. The potential demand for the whole area (15 to 19 year-olds) grew from 25,356,000 in 1960 to 34,824,000 in 1970. For these data, Barbados, Guayana and Jamacia have been included. Corresponding data for the secondary school-age population (according to UNESCO criteria: 15-19 year-olds) are 20,536,000 in 1960 and 28,546,000 in 1970.

3. Solari, A., "Secondary Education and the Development of Elites", in Lipset, S.M. and Solari, A. (eds.), Elites in Latin America, Oxford University Press, New York, 1967.

4. Source: UNESCO, op. cit., Vol. VII, SepSetentas 235.

5. ibid.

6. ibid.

7. The land distribution in agricultural Mexico is affected by an agrarian reform that is more political than economic in content. The maximum size of private property in agricultural districts is restricted to 100 hectares. Although there are various ways in which this law is evaded and "latifundos" are formed, these maintain at least a traditional type of agriculture. On the other hand, the collective "ejidos" do not function as such; rather, the "ejidatarios" are middle or small owners with lots that vary in size (from less than 1 hectare to 5 hectares, with averages that vary from region to region) but do not require very qualified specialists for their production, since this would not be economical. Thus, the integration to the market makes it difficult to take the service supply in the literal sense. The feasible means are those that we mentioned, or through government services directly to the small land-owners, or similar mechanisms.

CHAPTER X

HIGHER EDUCATION

The expansion of university enrollment during the decade of the sixties was, in the large majority of Latin American countries, the highest growth rate of all the cycles making up the formal educational system. For Latin America as a whole, the quantity of students enrolled in the higher cycle grew from around 545,000 in 1960 to 1,541,000 in 1970. The average annual growth rate for the decade was 11 per cent.(1)

In the decade of the fifties, university enrollment grew 8 per cent. During the first half of the sixties, this growth averaged 9.5 per cent annually, rising to 12.4 per cent annually during the second half of the sixties.

Taking 1960 as a base for observing the growth in enrollment during the sixties, the most rapid growth was found in Nicaragua (increasing almost seven-fold); the Dominican Republic (increasing sixfold); Brazil and Colombia (a little more than fourfold); El Salvador and Equador (fourfold); Peru, Venezuela and Costa Rica (more the triple); Mexico, Chile and Guatemala (triple); Honduras, Bolivia, Paraguay and Panama (more than doubling). Cuba, Argentina and Uruguay did not double their enrollments. Only in the case of Haiti was the annual growth rate zero, there even being a small decrease in the rate of schooling.

In Haiti there exists only one university (as of 1973), and small private schools called "free" that have the standing of university. All in all the total enrollment in higher education is only 1,700 students. The generally backward situation of Haiti (which has an illiteracy rate of 78 per cent of the population, with 82.2 per cent of the population being rural), and the total state of political repression - make any further commentaries about higher education in this country meaningless. Further on, analysing the characteristics of the "brain drain" in Latin America, we will note that Haiti produces university graduates with almost the sole result of exporting them to the metropolis.

The extreme opposite of the case of Haiti, both in terms of socio-political organization and with respect to the position of the people and the state concerning social change, is that of Cuba. University enrollment in Cuba and its growth are apparently the most organised and balanced, together with that of Argentina and Uruguay. That is, there is saturation in primary education and an important rate of growth in secondary education. Cuba is one of the countries that during the decade of the sixties lost an enormous number of highly qualified personnal, principally to the U.S.A. Given the regulations in this country about urban growth, the low increase rate of university enrollment can possibly be explained by a combination of educational policy (where the priorities lie in lower levels of the system); and the utilization of foreign technicians and professionals (mainly Russians). At any rate, it is very probably that the Cuban rate of higher education will grow significantly in the decade of the seventies.

The rates of university schooling in Argentina and Uruguay - the

TABLE 85: LATIN AMERICA: RATES OF HIGHER SCHOOLING (20-24 YEAR OLDS); ANNUAL RATES OF GROWTH IN ENROLLMENT ACCORDING TO EDUCATIONAL LEVEL; AND ANNUAL RATES OF GROWTH OF POPULATION. 1960-1970.

	Rate of University Schooling		Annual Growth Rate of enrollment			Annual Growth Rate of population		
COUNTRY	1960	1970	Higher	Second.	Primary	Total	Urban	Rural
Argentina	11.1	13.8	4.3	5.6	1.8	1.6	2.3	-0.2
Bolivia	3.6	7.5	9.7	5.4	6.6	2.3	3.7	1.5
Brasil	1.6	5.3	16.4	13.2	5.6	2.9	4.6	1.5
Colombia	1.8	3.7	13.8	11.7	6.2	3.4	5.5	0.7
Costa Rica	4.8	10.4	12.5	10.5	5.8	3.8	4.6	4.8
Cuba	3.3	3.5	6.0	9.9	3.7	2.0	2.7	1.2
Chile	4.0	9.9	12.6	11.3	4.6	2.4	3.5	0.8
Equador	2.6	6.5	14.5	12.6	5.6	3.4	5.1	2.2
El Salvador	1.1	3.3	14.9	10.0	5.5	3.2	5.1	2.6
Guatemala	1.7	3.8	12.3	10.5	5.5	2.9	4.2	2.5
Haiti	0.5	0.4	0.0	7.3	2.5	2.4	5.8	1.8
Honduras	0.9	1.6	10.9	10.8	6.7	3.4	6.4	2.6
Mexico	2.6	4.9	10.5	11.0	6.2	3.5	5.0	1.8
Nicaragua	1.1	5.7	21.0	16.2	7.0	3.0	4.8	2.2
Panama	4.5	7.2	8.3	7.2	4.7	3.3	5.0	1.6
Paraguay	2.6	4.6	10.2	8.5	3.5	3.4	5.3	2.7
Peru	3.6	10.6	13.9	13.0	5.6	3.1	5.6	2.0
Dominican Rep.	1.3	5.3	19.0	7.7	4.0	3.3	5.9	2.4
Uruguay	7.8	9.7	3.2	6.5	1.7	1.3	2.1	-1.4
Venezuela	4.0	10.0	12.6	10.8	3.8	3.4	5.0	0.5

Source: Various UNESCO tables from: Evolucion reciente de la educacion en America Latina, Analisis Regional. Vol. II, IV, V, VI, VII. SepSetentas, Mexico, 1974.

highest in 1960 - rapidly tend towards stabilization basically because they have reached levels of saturation. Both countries have reached population growth much below the Latin American average, and have had the greatest proportion of urban population. The expansion of university enrollment occurred in both countries during the forties and fifties somewhat similarly to what is presently occurring in the intermediate countries of the region. The political and economical instability of Uruguay, Argentina, and Chile make the educational style, particularly on the university policy level, of a "Political Freezing" type, as appears in German Roma's typology.(2)

The growth of enrollment in Peru, Chile, Costa Rica, and Venezuela, to levels that cover approximately ten per cent of the university-age population in 1970, corresponds to the growing participation of the middle class urban masses in the system of domination, a situation which disappeared rapidly in Chile with the 1973 coup d'etat. This kind of participation, as we have pointed out earlier, does not necessarily represent the access of the middle classes to power, but is the result of the satisfaction of consumer-type demand, not necessarily articulated to the necessities of the production system.

In the countries where the maximum enrollment growth for the decade was produced (Nicaragua, Dominican Republic, Brazil, Colombia, Salvador and Equador), the greater access to higher education together with very high illiteracy rates characterize countries with an undifferentiated social structure, with employment concentrated mainly in the agricultural sector, and with lower but expanding urbanization. Oligarchies control the political situation where growth of the urban middle classes just begins, and where as well a small industrial proletariat exists. The peasant masses and the urban marginal populations subsist in an economy of local markets and latifundist form. In the enclaves dominated by international corporations, the situation of the peasants is somewhat more exploited than in the latifundios dominated by local oligarchies. The middle class urban sectors attend higher education, which continues transmitting the values of the dominant class and which permits restricted incorporation into the power structure. In all cases, the approximately 5 per cent of the university-age population that is incorporated into the high level of the education system adequately represents the 5 per cent of the minor population with consumer capacity.

In any of the cases examined, the expansion of university enrollment and secondary enrollment does not alter the reigning system of domination, since the upper part of the middle class and the upper classes are automatically displaced to higher levels or better quality of education, thus conditioning a mechanism by which the education reached by the middle class and the general urban masses is devalued.

However, these mechanisms of conditioning of the hierarchy of the positions in the employment market to type of education, type of university and post-graduate degrees, will enter into conflict with the pressures of the mobilized middle and popular groups. This pressure will develop to the degree in which the differentiation of roles in the occupation market grows, the competition for the highest roles increases, pressures increase for efficiency in carrying out the roles, and finally the supply of professionals and technicians increases. It is understood that the processes are not lineal. The constant changes in government by coups whenever there is the threat of structural changes in the power structure are a clear example of the generation of contradictions within Latin American societies.

The patterns of growth in enrollment are those which were already noted in previous sections. That is, there is no relationship between the absorption of the primary school-age population or saturation on the secondary level, and the growth of university enrollment.

For 1965, it was calculated that for the whole of Latin America the average annual costs per student were as follows: Primary education - $42; Common secondary education - $155; Higher education - $700.(3) That is, the cost of common secondary education was 3.5 times higher than that of primary education; and the cost of higher education, 17 times higher. The situation varies from country to country. In Argentina, the average costs were $58 for primary school, $135 for common secondary school, $170 for technical-professional secondary school, and $230 for higher education. In Chile, in 1974, 51.6 per cent of the education budget was channeled to the higher cycle, which included approximately 4 per cent of the total number of students in the formal educational system.(4)

The greater part of educational services on all levels is of an official and free type, and the pressures for expansion of enrollment have led to an increase in public expenditure on education, sometimes reaching more than one-fourth of public expenditures. When illiteracy rates are high, and primary schooling rates are low, the consequence of a very rapid expansion of the universities is not only a decrease in the quality of university teaching, but also an appropriation by the universities of the resources that should be assigned to the expansion of services in the lower levels of the education system.

Since higher education is not only an urban phenomenon in Latin America, but also one restricted to large cities and metropolises, we see that it is simply at the service of a few at the cost of keeping the rural areas marginalized. As can be observed in Table 86, the population is predominantly rural in the majority of the countries where large expansion in enrollment in higher education occurs.

We recall that in Colombia, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, the Dominican Republic, Venezuela and very possibly Haiti, more than 75 per cent of the rural schools do not have a complete primary cycle. In Equador, Bolivia, and Brazil (with a primary cycle of 4 years), between 50 and 74 per cent of the rural schools do not offer the complete primary cycle.

We have already examined the close negative correlation between the rates of primary schooling and the rates of illiteracy. Therefore, the greater the educational problem on the lower levels of the system, the greater are the probabilities that the expansion of enrollment in the middle and higher levels of the system further accentuate the regional and social class differences.

TABLE 86: LATIN AMERICA. PERCENTAGE OF RURAL POPULATION AND PER CENT RESIDING IN LOCATIONS OF 10,000 OR MORE INHABITANTS. AROUND 1970.

COUNTRY	Per cent pop'n rural	Per cent pop'n in cities of 10,000+
Uruguay	21.6	84.2
Argentina	19.6	71.4
Chile	27.1	70.8
Venezuela	31.6	66.0
Mexico	53.6	43.5
Brazil	43.5	49.4
Colombia	40.4	49.1
Panama	53.1	40.1
Dominican Rep.	61.1	38.4
Equador	54.7	32.8
Costa Rica	63.5	33.7
Peru	49.1	32.7
Nicaragua	57.9	27.8
Bolivia	65.8	27.2
El Salvador	59.1	23.3
Paraguay	61.3	22.3
Guatemala	69.0	20.4
Honduras	73.9	18.7
Haiti	82.2	18.6
Cuba	44.5	?

Source: United Nations, Division of Population. Department of Social and Economic Affairs. New York, 1970.

A. THE DIFFERENT CONCEPTIONS OF THE UNIVERSITY

There is no universal idea about the role and function that higher education should fulfill with respect to the global society. Rather, different conceptions exist, each one expressing an ideology, a philosophy, a model of the university.

Ever since European universities began operating as corporations in the Middle Ages, and with their later development, particularly in the 19th century, a series of conceptions were developed. The principal ones are the following.(5)

a. The Napoleonic conception, wherein higher education is subordinated to the state and to the perpetuation of the empire through culture. Teachers are state employees and the role of the university is to create professionals by means of uniform teaching, by an organized body with an administrative hierarchy, having the political function of stabilization and socialization. The university operates as a lay and state intellectual mold.

b. The German conception, inspired by Humbold, Kant, Schelling, and summarized in Jaspers, is not the university as a corporation in the service of men, but in the service of knowledge. The mystique that regulates its functioning is based on the unity of knowledge and the close association between teaching and research. Furthermore, the university is a community of investigators whose aim is the recuperation of the "universal knowledge" of the Greeks, lending coherence and unity to the tree of science. What matters is the aspiration to truth, and teaching is secondary to research. The university is for intellectual elites, where the professor summarizes the excellence of knowledge by research and where the task of learning is rigid, prolonged and demanding.

c. The English conception, wherein the main thing is to educate. To educate is to know well, and knowledge is not only intellectual but also to be educated socially, in customs, in character, and in conversation. To educate is to convert students into gentlemen.

d. The North American conception falls within the liberal and pragmatic tradition, where education, research, and the university are oriented in action for progress. The distinctive characteristic is the immersion of the university in the activities of industry and commerce, with participation in the mechanisms of power of the industrialists and administrators. The university-enterprise is organized by departments and not by faculties.

e. The Soviet conception, which before the revolution was of the Napoleonic type, still maintains this character as an organism of the State, as an instrument of professional and political formation. The character of centralized State planning makes Soviet education one of the precursors of the planning of human resources, organizing the supply of professionals and specialists around the needs anticipated by the market.

f. The Chinese conception puts the university, especially in recent times, in an emminently political role, including it within its programmes of cultural revolution. Although the internal controversies over the predominance of the political over the academic continue to be present in China, it seems evident that the integration of the university to the processes of psychological, social and cultural change is dominant. Scientific research is realized by higher institutions that depend principally on the army.

* * * *

It is evident that these conceptions do not present themselves as pure types in reality, particularly in the contemporary era and especially for the first four models. There exists apparently a generalized tendency towards a predominance of the North American conceptualization of the university in the western world, with a combination of English and German characteristics.

The Latin American university has characteristics common to the various conceptions listed above. The greater part of the universities are of the State or Napoleonic conception, but considered to be politically autonomous (North American characteristic). The dominant preoccupation is more theoretical than pragmatic (English characteristic), but with an idealist image of science, a search for globality (German characteristic), although the dedication of the teaching staff and of the students do not have the discipline and concentration of the German concept. The distinctive characteristic which penetrates more and more into the universities of the world, is the role of "political conscience of the state" or "national conscience", from which internal and international injustices are denounced.

D. Riveiro calls this role of denouncement of corruption and irregularities - the "rejuvenation of society".(6) University autonomy, proclaimed in Cordoba, Argentina, in 1918, makes the conception of the university one of an independent community deeply tied to the society, especially its modelling.

Higher education in Latin America is dominated almost exclusively by the universities, since the weight of the technological institutes seldom reaches more than 10 per cent of total higher-education enrollment. In addition to their political role, the universities rarely put forth problems of research, basically because of the scarcity of resources for this type of endeavour, the massification of the universities, the concentration of topics in areas that imitate what is being done in the metropolis.

In their structure, Latin American universities are similar to the European ones, although organization by department rather than by faculty is becoming more and more general. The central activity of the universities is traditional, concentrated on the training of professionals.

The European heritage, especially the Spanish and French, makes the university, from this somewhat rigid perspective, commonly involved in a traditional-type humanism in which the more practical activities generally have little prestige. The concentration of the enrollment generally is in those studies related to the tertiary sector of the economy, and concentrated on careers such as law, medicine, engineering, sociology, and business administration. That is, if one assumes that the production of graduates will lead to an increase in the level of production in those sectors of production where the graduates will be used, such an expected rationality will not occur in the secondary sector (where technology and science predominate), but in the tertiary sector (services).

Table 87 shows the distribution of enrollment in Latin American universities according to country and branch of activity.

B. DISTRIBUTION ACCORDING TO GROUP OF SPECIALITIES

Since the Second World War, and with the culmination of currents of social thought that we called "economism" in the introduction(7), a preoccupation has developed with the analysis of the composition of university enrollment in relation to the imbalances between "traditional" and "modern" careers. The adoption of a model similar to the Soviet one was attempted, but inspired by the conceptualizations of the Economics of Education. This was meant to favour modern careers, that is, those that lead to professions associated with the processes of cultural change which help to increase the speed of the passage from traditional societies to modern industrial societies.

To make the university useful for economic development, it is necessary to strengthen the structures that provide the human resources necesary for the new situations of production, to create professionals with technical efficiency and with the innovative capacity of the industrial societies. In the latter, elective action dominates over prescriptive

TABLE 87: HIGHER EDUCATION IN LATIN AMERICA. PER CENT OF GRADUATES ACCORDING TO TYPE OF DEGREE.

COUNTRY	YEAR	Human. Pedag. Arts	Social Science Law	Nat'l sciences	Engin.	Med.	Agri.	Not spec.	TOTAL
Argentina	1968	33.5	24.8	3.6	10.0	26.2	1.8	-	100 (18,319)
Bolivia	1968	5.1	39.8	-	18.4	32.5	4.2	-	100 (588)
Brazil	1967	21.6	38.7	3.5	14.9	16.3	5.0	-	100 (29,627)
Colombia	1967	26.7	14.6	8.5	16.1	17.0	3.2	13.9	100 (4,424)
Costa Rica	1967	50.0	19.4	2.8	5.5	18.1	4.2	-	100 (360)
Cuba	1967	31.7	18.5	4.6	17.7	20.3	7.2	-	100 (2,682)
Chile	1964	38.1	18.4	3.0	10.7	23.2	6.6	-	100 (3,440)
Equador	1967	20.1	18.8	6.0	15.6	30.1	9.4	-	100 (1,133)
El Salvador	1967	14.3	24.0	5.2	37.4	18.1	1.0	-	100 (287)
Haiti	1966	8.0	47.0	-	7.6	20.6	16.8	-	100 (238)
Honduras	1967	-	25.0	-	31.9	43.1	-	-	100 (144)
Guatemala	1966	5.6	32.4	4.1	19.2	33.1	5.6	-	100 (268)
Mexico	1967	8.5	26.7	5.3	30.6	25.9	3.0	-	100 (7,321)
Nicaragua	1968	26.2	15.0	6.2	5.0	43.9	3.7	-	100 (321)
Panama	1967	38.5	23.8	11.2	3.1	21.7	1.7	-	100 (543)
Paraguay	1959	9.9	19.2	31.9	2.8	36.2	-	-	100 (213)
Peru	1959	35.4	17.6	9.7	6.7	26.5	4.1	-	100 (3,062)
Dominican Rep.	1967	22.5	35.0	0.3	6.3	25.2	0.9	9.8	100 (663)
Uruguay	1965	9.9	20.1	3.6	3.9	52.7	9.8	-	100 (785)
Venezuela	1966	24.8	33.9	1.3	12.7	21.8	4.8	0.7	100 (3,516)

Source: CONADE: op. cit.

action, the institutionalization of change dominates over the institutionalization of tradition, the growing specialization of institutions dominates over non-differentiated institutions. There is an effort to modernize the educational structure in such a way as to produce fewer lawyers and more chemists, fewer literary persons and more engineers, fewer social scientists and more natural scientists.(8)

The conception is legitimate, but its solution is very partial because it treats the symptom and not the sickness. We will devote a whole section to the problem of the "brain drain", concentrating especially on the separation existing between the needs of the country, economic dependence, and university production.

Although it is correct, as Anderson maintains(9), that "a productive economy requires high levels of education and a large educated elite", the particular structural situation of the Latin American economies, the political instability, and the autonomous nature of the universities, configurate a situation where the universities are not, nor do they represent, a mere government agency. But their situation before the state is always ambivalent, sometimes frankly anti-government. Sometimes there is a "pacific coexistence", but never a frank integration, especially in the productive sector.

Thus the modernization of enrollment in an underdeveloped country generally leads, first, to sub-employment of the graduates; and second, to emigration towards the metropolis. German Rama, in a study of the university system in Colombia, typifies in an excellent way the situation produced by the modernization of the universities in an underdeveloped area. The conclusions of the author are as follows.(10)

a. The structure of the employment market is less modern than the distribution of graduates from the university. Except when the university is elitist and its offer of technicians very low, facilitating modernization without professional unemployment, a supply that is moderate in quantity and in orientation towards the technical and scientific branches, in the short run saturates the employment market.

b. The states do not have the financial capacity to sustain the high costs of a modern university of the masses. In many cases, although the theoretical possibilities of financing are greater than the actual ones, the governments lack policies of formation of technical and scientific human resources that would orient them to investment in the formation of resources.

c. In formation of researchers the problem is even more complex. The economic organizations develop very little research, and even to a lesser degree do they finance university research, while the large businesses, that are in a position to do so, are generally dependent on businesses in the developed countries; or they buy the technology in those countries and even receive technicians to apply it.

d. Among the various development plans in force in the Latin American countries, none has given priority to the development of pure or applied science. Although in almost all these countries institutions exist that are in charge of promoting scientific knowledge, the funds that they control constitute a very tiny part of the national product, and the effect achieved is, in the best of cases, the impedement of the scientific evolution of the country.

Apart from the absence of priority given to science, there exists another problem no less significant, that of the mutual jealousy between the scientists and the politicans. The majority of Latin American countries are affected by various forms of authoritarian governments or governments of too low an index of legitimacy for many scientists to accept work within their sphere or for liberty of research to exist, especially in the social sciences. This situation affects the universities, since their research projects receive weak and intermittent financial support from governments.

The university does not involve itself in the occupational destiny of its graduates. It continues to operate with a modern curriculum in the hope that the society will use these resources which the university trains. The situation of the employment market, in this case, will react on the university in various ways.

1. If the university is of an "open" enrollment type, market demand puts pressure behind those careers providing greater occupational opportunities, indpendently of its utility for the modernizing plan.

2. Even in the "closed" type of university, demand is channeled towards certain types of careers, apart from utility for the modernizing plan. In one case this would be the careers and specializations that permit easier emigration towards the developed countries; those that go to university will be motivated towards the learning most useful for emigrating, but which does not necessarily coincide with the national need. In another case, the choice of careers with high social prestige is made by the student, not because he has some "aptitude" or "vocation" for it, but because of

its utility for upward mobility. The important thing is not the technical knowledge that the person will have, but the possession of a university "degree".

3. The unsatisfied demand in the modernized universities invites the rise of others, traditional in type. This in turn affects the employment market and the type of global supply of technicians resulting from higher education. These difficulties generate in the modernizers a limitationist and elitist ideology of the university, as is eloquent in the case of Colombia. It is though that if the university of an underdeveloped society wants to be modernized, the primordial condition of this achievement consists in limiting the number of technicians and scientists that are trained. In this way would be achieved an adjustment to the market and sufficient availability of resources to finance teaching and research on a high level.

However, with regard to the project of scientific modernization, for this to be effective in the university requires the presence of certain specific factors:

1. adequate scientific training o the teachers;
2. positive orientation to the values inhering in science;
3. professionalization of the teaching - researching role;
4. ties to the international scientific community;
5. availability of material conditions for research.

FOOTNOTES

1. Data from UNESCO, op. cit.

2. For an elaboration of German Rama's typology, see Chapter V.

3. The data regarding average costs per student are from CONADE, op. cit.

4. If the total cost per graduate rather than the rate of schooling for educational levels is taken into account, the values increase considerably, since the differential drop-out rates for levels or cycles would have a significant influence. In the case of Argentina, for example, we would have to double the values for the cost per student in primary and secondary education and triple them for higher education.

5. The classification is from J. Dreze and J. Debelle, Conceptions de l'Universite, Presses Universitaires, Paris, 1968.

6. D. Ribeiro, "Universities and Social Development", in Lipset, S. and Solari, A., Elities in Latin America, Oxford University Press, New York, 1967.

7. The "economicism" tendency in the social sciences is generally translated into "developmentism" in politics, especially in recent times.

8. The schemas of the theory of Modernization find in sociology their theoretical fundamentals in the work principally of Talcott Parsons and his follwers. See for example: T. Parsons, The Social System, The Free Press, New York, 1964; and also, T. Parsons, et al, Towards a General Theory of Action, Harvard University Press, Cambridge, 1952. In Latin America, Gino Germani best summarizes the thinking, especially in Politica y Sociedad en una epoca de transicion, Paidos, Buenos Aires, 1969. The paradigm of the theory in economic terms must be looked for in W.W. Rostow, The Stages of Economic Growth, Harvard University Press, Cambridge, 1960, and in the works of T.W. Schultz and his followers for the specialised branch of the economics of education.

9. C.A. Anderson, "Access to Higher Education and Economic Development," in A.H. Halsey, J. Floud, C.A. Anderson (eds.), Education, Economy and Society, The Free Press, New York, 1968.

10. German Rama, El Sistema Universitario en Colombia, Direccion de Bivulgacion Cultural, Universidad Nacional de Colombia, Bogota, 1970.

CHAPTER XI

EDUCATION AS AN ECONOMIC INVESTMENT. THE "BRAIN DRAIN" AS AN INDICATOR OF THE INVESTOR FALLACY IN THE DEPENDENT COUNTRIES

A. DEVELOPMENT AND THE ECONOMICS OF EDUCATION

One of the branches of economics that has prominently developed in recent years is that of the "economics of education", specializing in human resources. This evolution is explained in part by the emphasis given to the problem of economic development in the last twenty-five or thirty years, in part by the privileged situation that education has maintained as an "instrument for social transformation", and in part by the status of economics within the social sciences.

The two principal sources which complemented each other to produce the emphasis are, on the one hand, the failures of the conceptualizations of traditional economics to explain economic growth as an accumulation of capital, by considering only physical capital; and on the other hand, the increasing importance that was allocated to education and to economic welfare in general, particularly since the creation of the United Nations and the consequent systematic publication of comparative statistics.

The principal concept of the economics of education, which for the first time appears in the equations of economics, is that of "human capital". Expenditures on education, health and housing are represented now as a category of income and not as a consumer expense as represented in classical economics. Now the investment in education, in health, and so on, is incorporated into the capital equation as human capital. With this, a more global focus on the problem of economic and social development is achieved. The process of economic growth includes all the categories of income: physical capital, sanitation improvements, better labour discipline, and the improved training and professional formation of the population.

The principal thesis of the economics of education maintains that improvements in the quality of work have fundamental positive effects on production and on economic development. Various works have been published to prove this hypothesis and although the evidence is contradictory in general, it is accepted that the formation of human capital contributes effectively to an increase in economic productivity.(1)

Furthermore there exists an ideological backing, since the affirmation is reached, for example, that:

> The workers have been converted to capitalists, not by the diffusion of the property of the shares of societies, as tradition would have preferred, but by the adquisition of knowledge and abilities that have an economic value.(2)

If the principal thesis is correct, what is immediately necessary for the achievement of development, is the planning of education according to the necessities of the economy, that is, with goals, principles, and objectives that correspond to the course of economic happenings.

A great part of educational planning should be called the "economics of education", the goal being the optimal distribution of human resources.

The educational system is an industry; each school, a factory, in which the central preoccupation is "quality", "quantity", and the "rationality" of the product. For example, the distribution of the university population would have to be rationalized by means of methods and techniques that lead to greater enrollment in modern careers such as those that are required in industrial production (engineers, electronic technicians, chemists, geologists, physicists) instead of in such traditional careers as law, and the arts. It would be necessary to anticipate the demands of the occupational market in such a way as to generate the quantity of graduates necessary, avoiding unemployment and under-employment.

As an abstract solution, the perspective of the economics of education seems to be the solution indicated for the chaos and the disorganization of the educational systems in the undeveloped countries, since its alternatives seem to offer technical solutions to the problem of economic undevelopment.

The "economics of education" has aroused various resistances, the majority of them more in an emotional than in a rational context, in which there are intermixed problems of analytical methods and normative aspects. Johnson points them out very well:

> The recognition that important areas of socio-economic policies suppose decisions analytically identical to the decision of investment in equipment, does not mean in any way that man must be considered as a machine; on the contrary, the refusal to recognize the relations between this problem and investments, under the pretext that it concerns man, can have the result that man receives a worse treatment than the machine.(3)

The observation is correct and attacks the voluntarism-ornamented-as-humanism of those that are opposed to the rational and scientific treatment of problems concerning man, elevating him above any analytical treatment.(4)

Our criticism is not located in this context. The problem in our view is the fact that the economics of education continues to have a unilateral perspective, as it is occupied principally with economic variables and with purely economic relations. Political, social, cultural, and psychological relations become only a residual category. This unilateral perspective proposes technical solutions that although possibly valid for the developed countries, are not valid (at least with respect to higher education) for the dependent or undeveloped countries.

The concept of "human resources" is an "economistic" concept, as it intermixes abstract problems of economic growth with more general aspects of economic development.

The principal problem of the "economics of education" types of analysis is not located in the quality, level, sophistication or precision of these analyses, but in the lack of a theoretical criterion to confront the problem of development as a global problem. In other words, whether or not it is their intention, the authors propose solutions that are always partial solutions. Finally, they never "diagnose" the problem of economic and social development, but rather only detect a "symptom" on the economic side.

The process of development is a global or total phenomenon, and the analytical separations between the "political", the "economic" the "social", and the "educational" often confuse this.

The processes of development and modernization depend on political, economical, social, cultural and psychological conditions which are in constant interaction, and which are not a simple aggregation of analytical elements. On the other hand, as Cardoso(5) points out, undevelopment is not the equivalent of non-development; the notion of undevelopment becomes abstract each time that we ignore the fact that the notion of development implies the notion of undevelopment. That is, the property of undevelopment does not represent the absolute characteristic of a system, but rather is a relational property. Undevelopment, at the same time that it expresses a particular type of relationship among distinct societies (some developed, others not) expresses forms of specific domination, certain forms of production, certain concrete social movements within and between each one of the societies.

Hence when the problem of undevelopment is attributed to characteristics that depend purely and exclusively on the system itself, and when planning is done in terms of these attributes, the planning becomes a smoke screen hiding the real problems.

Planning is one of the elements to be considered in the modelling of social life. It must be remembered that plans do not operate in a vacuum, but in concrete social situations. The idea that planning implies rationality, and that planning is the basis of the organization of the educational structures, for example, and of the harmonization between these and the rest of the social necessities, many times commits the fallacy of being based exclusively on the economic fact of organization. It ignores the social forces that are above and below the planning; and ignores as well the dynamics of the political, economic, and cultural forces that determine the conditions under which the plan is going to operate.

The economics of education assumes that there is one type of development (that which occurred in the now-developed zones) and that what occurred in the developed societies will occur in the undeveloped societies as soon as they "programme" or "plan" their political, economic and educational structures along the lines already demarcated by the experience of the modern societies. Thus it proposes a schema in which the arrangments of the educational systems have to be made under the assumption that education (especially higher and technical education) will become transformed into an investment for development.

We are not trying to deny entirely the value and the explanations that the economics of education have and possibly will continue to have in the analysis of economic and educational problem. However, its acceptance especially for educational planning in Latin America, without theoretical mediation and without consideration of the specific problems of the area, of the countries, and of the regions, could lead not only to excesses, but also to the creation of false expectations and eventually to the failure of the plan.

We will try in this chapter, then, to question certain generalizations - in order that, for example, the value that education allegedly has for economic growth may not be taken as a universal panacea for development, in the transition from "stagnated" to "mature" economies, with production increasing above the limits of consumption, and with generalized application of science and technology.

Education as an economic variable has an important value in development. However, the specific weight of this variable will be determined by the structural conditions of the society under consideration.

Development is a complex and global phenomenon in which other variables intervene and affect the "force" and the "explicative" power of education. The experience of the economists, as emphasized by Schultz and Johnson amongst others, has shown that the importance they placed on physical capital as an economic investment for development was not satisfactory in practice. It has been necessary to incorporate other factors. In spite of this, the analyses of the economists continue to be partial, to the degree in which, we repeat, they remain purely economical.

If one calls economic growth, in its fullest sense, the processes of accumulation of capital (physical and human), we would find that economic growth would be given by a progressive accumulation. The notion of growth has connections with such notions as stagnation and backwardness.

What we would call socio-economic development would imply economic growth as well as a change in the social order that defines the relations among men within the society, and that includes derivations in the cultural and the psychological. Socio-economic development would be given by transformation of structures. The notions of development or underdevelopment, of non-development, are structural notions included in the international system of political-economic relations among countries.

This differentiation helps us to interpret in a more satisfactory way, and even to repropose, the problems, the confusions, difficulties or contradictions in the national policies concerning investments in education which Johnson finds when he discovers the effect of the "brain drain", that is, those situations in which the investments in education are transformed into losses (for the poor countries) as a consequence of unilateral transferences or emigration of human capital to rich countries. The "economic absurdity" (sic) that Johnson sees, is rather, in our scheme, the *logical result* of capitalist relations between developed countries and undeveloped countries, a relation that in itself defines the process that is development and undevelopment.

In the section that follows, we provide some data about migration of technicians and professionals as an example of the fallacy of generalizing findings that, although having aspects of theoretical coherence, do not correspond to the more complex relations between countries. That is, some countries are more dependent than others, always "revolving" around nuclei that operate as "planets" around which these "satellites" circulate. The utilization of an analogous astronomical model serves only to give an approximate partial image of these structures of dependency that seem to dominate the flow of "attractions" and "rejections" in the international movement of professionals and technicians.

The brain drain from less-developed areas to more-developed areas is found within countries as well as between countries.

But the total process is even more complicated, since the migration does not take place directly from "satellite to metropolis", but rather some intermediate countries compensate part of their losses by the incorporation of brains from more backward countries. The backward countries then lose brains in two directions: towards the metropolis and towards the intermediate countries. Bolivia, for example, loses brains towards such countries as Canada, the United States, or France, as well as to Argentina, Brazil, and Peru.

It must furthermore be added that migration is not the same for the different countries. Certain countries tend to "export" certain types of technicians and professionals, especially those types of professionals that constitute the "solution" to the basic necessities of the country. For example, Haiti, the Dominican Republic, Salvador, and others "export" doctors, which they can ill-afford to lose, while Mexico exports engineers and Argentina exports physicists, geologists, chemists, and engineers.

The data about "brain drains" have begun to be compiled in recent years, and in general tend to be quite poor. Only a few countries - principally the United States - provide valuable and reliable information.

B. THE "BRAIN DRAIN"

The data we will now present give an idea of the dimension of the problem of emigration of professionals, as well as reinforce our criticism about the economic value of education as an investment.

The first table that we present contains data from the Immigration and Naturalization Service of the United States of America, for the years 1967, 1968, 1969, and 1970, according to the origins of immigrating doctors, scientists, and engineers.

It is evident that the policy of the Immigration Services is selective, reserving the right to admit highly qualified personnel. Furthermore, what comes out of this table and of the following tables, is that the total flow either has remained constant or has increased, while the contributions of some areas have varied. The contributions of Asia, with regard to doctors, as well as engineers and natural scientists, represent the greatest of all and are constantly increasing (37.85 per cent, 31.0 per cent, 47.83 per cent and 55.89 per cent of the total United States immigration of engineers and natural and social scientists; and 33.56 per cent, 39.05 per cent, 52.07 per cent, and 54.71 per cent of the doctors admitted as immigrants for the years 1967, 1968, 1969 and 1970 respectively). The direction followed by Africa in this respect is similar to that of Asia, although its volume does not have the same magnitude.

The contributions of Asia, Africa and Latin America as a group of undeveloped countries to the United States, compared to those of other more developed areas (Europe, Canada) was 49.9 per cent in 1967, 46.1 per cent in 1968, 62.8 per cent in 1969, and 69.6 per cent in 1970 for engineers and scientists. For doctors, it was 60.4 per cent, 66.8 per cent, 66.3 per cent, and 71.9 per cent respectively.

TABLE 88: ENGINEERS, SCIENTISTS AND DOCTORS ADMITTED TO THE USA AS IMMIGRANTS, ACCORDING TO REGION OF RESIDENCE, FOR THE YEARS 1967 TO 1970.

A. ENGINEERS AND SCIENTISTS (NATURAL AND SOCIAL)

Origin	1967	1968	1969	1970
Western Europe	4356	4772	2429	2535
Eastern Europe	138	202	184	244
Canada	1623	1940	1163	1231
Latin America	1232	1522	810	699
Asia	4740	4021	4905	7457
Africa	181	358	646	1024
Others	153	158	118	150
Sub-Total	12523	12973	10255	13337

B. DOCTORS

Origin	1967	1968	1969	1970
Western Europe	803	572	504	545
Eastern Europe	57	101	75	98
Canada	449	325	236	240
Latin America	791	749	251	332
Asia	1116	1195	1435	1726
Africa	86	97	137	188
Others	23	21	18	26
Sub-Total	3325	3060	2756	3155
TOTAL	15848	16033	13011	16492

Source: Immigration and Naturalization Services, U.S. Department of Justice, Washington, D.C. (Extracted from the Inter-american Council for Education, Science, and Culture, Third Meeting, 1972, Panama, in *Revista del Centro de Estudios Educativos*, No. 2, 1972, Mexico).

In overall terms, this means that the undeveloped countries "contribute" to the "pool" of immigrant professionals, doctors, engineers, social and natural scientists in the United States twice as much as do the developed countries, with a tendency to increase.

If one takes into consideration the rates of doctors, engineers, and scientists emigrating from the different countries, one finds that the countries that most need them are those that most often export them.

Roughly calculating the cost of producing one professional as $20,000 for the four-year period that we are considering, the United States received an approximate value of $1,227,680,000 worth of immigrants, of which $713,700,000 came from the undeveloped countries. This includes only engineers, doctors, and social and natural scientists. Keep in mind that these are data just for the United States; if data were obtained for immigrants from undeveloped countries to Canada, England, France, and Germany, and other developed countries, undoubtedly these quantities would at least be doubled.

With respect to Latin American immigrants, by country, this area admits to the United States as professionals, technicians and related workers, the numbers shown in Tables 89 and 90.

As these tables clearly show, the situation for Latin America as a whole is quite similar to that of the global immigrantions of professionals shown in Table 88, although the tendency is towards a decrease. The situation in Chile and Uruguay has meant that the brain drain for 1973 and 1974 tends to present characteristics similar to those of Cuba, although

TABLE 89: LATIN AMERICAN PROFESSIONALS, PROFESSIONALS, TECHNICIANS AND RELATED WORKERS ADMITTED TO THE U.S.A. AS IMMIGRANTS, FROM 1961 TO 1970.

Origin	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	Total
Argentina	552	531	781	1159	973	699	549	633	364	235	6476
Bolivia	54	77	102	138	150	94	94	81	66	72	928
Brasil	253	318	362	382	465	356	284	324	223	236	3203
Chile	142	151	174	174	240	156	135	176	120	120	1588
Colombia	376	511	691	973	868	777	404	764	669	395	6408
Equador	108	221	333	295	358	286	161	328	289	192	2571
Paraguay	13	42	26	28	22	21	21	14	20	15	222
Peru	171	198	281	335	203	148	147	168	138	130	1919
Uruguay	23	29	34	44	54	60	33	52	51	62	442
Venezuela	191	409	384	296	177	159	122	153	110	117	2118
Costa Rica	98	192	166	226	219	105	78	122	116	84	1406
Cuba	1145	981	666	1276	1581	1358	2747	4603	634	631	15622
Salvador	98	109	125	128	149	99	62	83	90	86	1029
Guatemala	77	98	138	147	156	158	98	144	128	78	1221
Haiti	127	188	238	245	398	270	207	510	460	517	3160
Honduras	88	111	128	179	184	98	65	90	61	63	1087
Mexico	636	852	816	666	929	864	843	824	590	500	7520
Nicaragua	83	53	64	77	72	59	47	25	29	44	503
Panama	115	166	119	103	124	81	74	109	80	110	1081
Domin. Repub.	237	351	449	276	311	495	300	274	299	228	3220
TOTALS	4587	5588	6077	7147	7633	6343	6470	9477	4537	3915	61774

Source: United States Department of Justice, Immigration and Naturalization Services, Washington, D.C. (Extracted from the Interamerican Council for Education, Science and Culture, Revista del Centro de Estudios Educativos, No. 2, 1972).

TABLE 90: PERCENTAGE OF ILLITERANCY, ENROLLMENT IN SECONDARY AND HIGHER EDUCATION, PERCENTAGE OF LATIN AMERICAN EMIGRANTS ADMITTED TO THE U.S.A. AS PROFESSIONALS, TECHNICIANS AND RELATED WORKERS FOR LATIN AMERICAN COUNTRIES. (1961 - 1970).

Countries	Illiteracy (1960)-14 yr olds + (1)	Enrollment in Secondary education (estim. - 1969) (1)	Enrollment in Higher education (estim. 1969) (1)	% of total techn. & prof immigrants received in USA ('61-'70)	% enrollment in higher educ. over Latin American total
Argentina	9	1,100,000	274,000	10.48(4676)	26.35
Uruguay	10	174,000	13,000	0.72(442)	1.25
Costa Rica	16	49,000	9,000	2.28(1406)	0.87
Chile	16	362,000	54,000	2.57(1588)	5.19
Panama	23	67,000	12,000	1.75(1081)	1.15
Cuba	--	297,000	29,000	25.29(15622)	2.79
Paraguay	25	65,000	8,000	0.26(222)	0.77
Colombia	27	639,000	47,000	10.37(6408)	4.52
Equador	32	168,000	16,000	4.16(2571)	1.54
Venezuela	37	467,000	80,000	7.64(2118)	7.69
Mexico	35	1,572,000(*)	171,000(*)	12.27(7520)	16.44
Domin. Repub.	36	50,000	4,000	5.21(3220)	0.38
Brazil	39	2,840,000	187,000	5.19(3203)	17.98
Peru	40	573,000	100,000	3.11(1919)	9.62
Nicaragua	50	32,000	4,000	0.81(303)	0.38
El Salvador	51	79,000	4,000	1.67(1029)	0.38
Honduras	55	33,000	4,000	1.76(1087)	0.38
Bolivia	60 (1967)	115,000	16,000	1.50(928)	1.54
Guatemala	62	63,000	10,000	1.98(1221)	0.96
Haiti	--	28,000	2,000	5.12(3160)	0.19
Totals	33	8,713,000	1,040,000(#)	100.00%	100.00%

Source: (1) Department of Social Affairs, General Secretariat, OAS, Washington, D.C.
(2) Immigration and Naturalization Services, U.S. Department of Justice, Washington, D.C.

(*) corresponds to 1960 data
(#) includes Barbados, Guayana, Jamaica, Trinidad and Tobago

now for political reasons of a different nature. It is also possible that the greater part of this emigration tends to be distributed now in countries like Argentina, Mexico, Colombia, and Venezuela, as well as in the European countries, rather than in the United States. The total volume of emigration, in terms of countries, possibly will still tend to increase in the years following those that we have considered. In the case of Brazil, the expansion of the internal market and the high salaries offered make it a country that attracts highly qualified professionals.

In both tables, the volume of Cuban immigration is noteworthy. This is due to the internal factors of Cuban politics. Thus Cubans represent 25.29 per cent of the total of Latin American immigrants admitted to the United States as professionals, technicians and related workers, for the years 1961 to 1970.

Following Cuba are: Mexico, with 12.3 per cent; Argentina, with 10.5 per cent; Colombia, with 10.4 per cent; Haiti and the Dominican Republic, with 10.3 per cent, and Venezuela, with 7.64 per cent.

However, the relative contribution of each country (see Table 90), when the state of its educational system is taken into account, makes the greatest contributors precisely those countries with the highest illiteracy rates, and the lowest rates of secondary and higher education.

Taking enrollment in higher education as an indicator of the wealth or resources of "brains" of a nation, presents some problems. First, the university enrollment leaves aside the problem of university desertion, which tends to be strongly and negatively correlated with the level of development of the country. But it is a data on which we must rely, and it has some utility to allow at least a first approximation of the problem.

Table 90 allows us to compare the relative percentages of Latin American emigrants admitted to the United States, as well as the relative percentages of enrollment in higher education. Both percentages have as a base the Latin American totals for each category. What immediately stands out is that the countries with relatively greater contributions now are: Haiti, the Dominican Republic, Costa Rica, Equador, Honduras, El Salvador, Nicaragua, and Guatemala. These are precisely those countries that lost brains not only to such countries as the United States, Canada, France, and Germany, but also to such intermediate countries as Argentina, Mexico, Colombia, and Chile.

More precise data concerning graduates for some Latin American countries are provided in the following table.

Table 91 tends to reconfirm the finding. It is even possible to estimate that if Haiti and the Dominican Republic were to be included, they would fall at the bottom of the table.

It is confirmed then that the greatest contributions in relative as well as in absolute terms are made by the countries that are geographically close to the metropolis (Central America, the Carribean, Mexico).

This means that the Central American and Carribean universities operate principally as industries for the export of brains. If data relative to total emigration were available, it would not be surprising to find that approximately one-third to two-thirds of the "production" of the

TABLE 91: RELATION BETWEEN PROFESSIONALS EMIGRATED TO U.S.A. AND GRADUATES OF HIGHER EDUCATION IN THESE OCCUPATIONS, OVER A 4-YEAR PERIOD, FOR 17 LATIN AMERICAN COUNTRIES (1959-1962).

Country	Emigrants	Graduates (professional)	Graduates per (1962-63) per 1000 EAP*	Graduate Emigrants per cent
Brazil	681	120,945	78	0.6
Uruguay	46	2,401	74	1.9
Argentina	1082	37,374	166	2.9
Chile	337	10,184	94	3.3
Paraguay	40	1,102	56	3.6
Venezuela	509	13,430	117	3.8
Mexico	1441	25,881	41	5.6
Panama	143	1,799	97	7.9
Colombia	1495	14,651	67	10.2
Equador	375	3,410	41	11.0
Costa Rica	217	1,934	145	11.2
Guatemala	148	764	8	19.4
Nicaragua	123	519	21	23.7
Honduras	133	537	24	24.8
El Salvador	178	437	9	40.7

Source: Unit of Technological Development: "Some Characteristics of the Emmigration of Professionals and Technicians from Latin America to the United States", Washington, D.C., Panamerican Union, June, 1968. (Extracted from the Latin American Council for Education, Science and Culture, Revista del Centro de Estudios Educativos, Mexico No. 2, 1972).

*EAP = Economically Active (employed) Population.

universities of these countries is strictly for external consumption.

According to data from the International Labour Organization (S. Watanabe: The Brain Drain from Developing to Developed Countries, 1969), and from the Panamerican Health Organization, thirty per cent of the engineering graduates, twenty-one per cent of natural science graduates and twenty-two per cent of the nurses from Chilean universities emigrate either to the United States, Canada or France. Engineers and science graduates go to the United States, Canada and France; nurses prefer the United States and Canada. Venezuela "exports" 47.5 per cent of its natural scientists, 14 per cent of its engineers, and 53.5 per cent of its nurses to these countries. Colombia exports 25 per cent of its engineers, 13.5 per cent of its natural scientists, and 23 per cent of its doctors.

The problems associated with health and with the low proportion of doctors in some Latin American countries contrast strongly with the emigration of doctors, mainly towards the United States as demonstrated in Table 92. It must be pointed out that the type of "export product" that each country "offers" to the developed countries, has to do with its internal structures of "consumption" of services, and with the type of graduates that its institutions of higher education produce.

Table 93, showing Argentinian emigration in relation to the percentages of graduates, indicates that it is precisely the "modern careers" that produce the greater percentages of graduates that will emigrate from the country.

Some of the data in Table 93 conflict seriously with those provided by the ILO in some professions. For example, the ILO reports that 7.2 per cent of Argentinian doctors emigrated to the United States, Canada and France while Table 93 shows that 2.8 per cent of the stock of doctors emigrated. It is possible that the difference is explainable by one or more of the following:

a. the data are incomplete (in one or both tables);

b. the data of the ILO refer to percentages of Argentinian graduates that emigrate; the data of the Ditella Institute refer to stock, in which are included foreign medical professionals that have emigrated to Argentina;

c. the emigratory currents are felt with greater intensity by the young professionals - recently graduated or with only a few years in the profession.

Thus when the calculations are based on stock, the "weight" of the established professionals is stronger than when the calculations are based on per cent of graduates.

At any rate, the data in Table 92 concerning the percentage of emigrated doctors, over the total of graduates, indicates, we repeat, that the countries that most need these professionals are those that tend to make a greater contribution to other countries.

It is important to emphasize the lack of correspondence between the necessities of the country and the brain drain. It is evident that "investment" in higher education does not yield purely economic benefits. Rather, it is something which in the system of national accounting should be categorized as loss, because the national markets do not seem willing or able to accept the offer of the kind of professionals that emigrate. The market or effective demand (that is, the public that can pay for the services) for liberal professions which offer their services to individuals (as in the case of doctors, architects, lawyers), is limited, and concentrated principally in the urban zones. In the case of the non-liberal professions, these have to offer their services to organisations that either are not prepared for the types of service that represent an economic investment, or else simply do not exist.

The latter situation obliges us to extend a little the argument towards the dependency of the national economies either on the multinational corporations in the secondary sector of the economy, or on the importation of technology in the national or multinational sectors of production.

Much modern activity in the transformation industries is under the control of international corporations, or of private or state national industries. The activity of applied research and even the giving of patents for innovations is done principally in the metropolis. Research in laboratories in the peripheries is nonexistent, or limited to "quality controls" or other lesser tasks. Also, the existence of research contracts with universities is almost nil. The technicians and professionals incorporated into these enterprises either operate the machinery or are directly supervisory personnel, or directors of the enterprises.

In the case of private enterprise, research is close to zero, as

TABLE 92: ANNUAL EMMIGRATION OF LATIN AMERICAN DOCTORS TO THE U.S.A. BY COUNTRY, IN RELATION TO ANNUAL GRADUATES IN MEDICINE (1965-68) AND NUMBER OF DOCTORS PER 10,000 INHABITANTS.

Country	Emigrants, as % of graduates (1)	Doctors per 10,000 inhabitants (2)
Mexico	5	6
Central America	25	-(*)
Argentina	3	15
Colombia	14	4
Peru	2	4
Chile	10	6
Brazil	1	-(*)
Jamaica	25	4
Dominican Republic	16	4
Haiti	20	-(*)
Nicaragua	18	2
Guatemala	8	2

Source: (1) Panamerican Health Organization, and U.S. Immigration and Naturalization Service, Washington, D.C, in Inter American Council for Education, Science and Culture, op. cit.
(2) Department of Social Affairs, General Secretariat OAS. Washington, D.C., 1969.

(*) no data available

TABLE 93: RELATION BETWEEN NUMBER OF EMIGRANTS AND EXISTING STOCK IN DIFFERENT PROFESSIONS. DATA FOR ARGENTINA

Professions	Est. number of Univ. graduates alive in 1965	Number of emigrants 1951-1965	Coeeficient of Emigration (Col.2 as per cent of col 1.)
Accountants and auditors	11,917	266	2.2
Architects	4,598	192	3.1
Chemists	2,372	348	10.5
Odontologists	13,724	98	0.7
Engineers	19,161	1076	5.6
Lawyers	21,488	91	0.4
Biologists	812	12	1.5
Geologists and geophysicists	470	20	4.3
Physicists	358	19	5.3
Pharmacists	12,250	73	0.6
Doctors	37,432	1065	2.8

Source: J. Sommer: "The Availability of University Professionals in Argentina", Torcuato Di Tella Institute, 1971, in InterAmerican Council for Education, Science, and Culture, op. cit.

much for the cost involved as for the facility with which technology can be imported.

In the case of state enterprise, there exists some research although mostly on a small scale and unconnected to the organisms of higher education, private or state. To this is added the bureaucratic complication that makes the Latin American state enterprises somewhat inefficient.(6)

There do not exist government programmes that connect the state production organizations with the state educational institutions. The attempts, if they exist, are not part of a programme, but are isolated researchers or institutions.

C. CONCLUSION

The dominant ideology in the "economics of education" (called "developmentism" in the political spheres in Latin America) is summarized in the idea that the solution to undevelopment should be found not only in the capacity of physical resources, but also and more importantly, in human resources. Applying this ideology to the sphere of world transformations, innovative capacity, generation of scientific and technical knowledge and similar activities, it was thought that these would be the fundamental technical elements with which to achieve the rationalization of production, secularization of society. In short, these would be the key factors that guarantee the passage from traditional to modern societies.

Although it is certain that these elements are keys to economic and social development, to the modernisation and rationalization of production, to the elevation of living standards - it is also clear that in order to achieve this, there exists the necessity of having competent professionals, in modern careers (such as engineering, physics, geology). It is also evident that these elements are not the catalyzer of the "chain reaction" that will favour the development, in the short or long run, of innovating capacity, or of rationalization of the activities of production and social organization, or of economic and social development.

The obstacles to development do not lie simply in the capacity of local brains to generate innovations or to adapt to the institutional arrangements demanded by the forms of organization of modern societies. The promotion and coordination of scientific and technological activities require qualified professionals. They also depend on the system of production, on the integration of the university with the productive apparatus, on the system of priorities set by the groups in power, and on the degree of dependence of the country or the region.

A coherent university policy concerning science and technology is a necessary but not a sufficient condition for the development of the science and technology of a country. The condition of sufficiency is the integration of university policy with congruent policies on the national level which take into account the global situation in which the economy and the politics are framed.

The characteristics of the system of production in the dependent societies, where the great transnational enterprises dominate the market and where the national enterprises modernise the system on the basis of imported technology, generate a global situation in which pure and applied research either exists in very incipient degrees or simply does not exist.(7) The transnational enterprises undertake their research mainly in the home metropolis, and the national enterprises massively import this same technology - or its finished products - all at a good price.

University autonomy, which could have produced such good results in the political sphere, making the university mainly a "national conscience", from which irregularities in the social system would be denounced - has done little to overcome the legacy of the napoleonic university. Thus, its most relevant function has been, on the academic plane, reduced to the formation of professionals or (carrying the situation to an extreme) to the expedition of diplomas. The separation of the university from the production system and the dependent character of the latter, has arrived at a divorce between the agents of production and the scientific community, the absence of local research, the brain drain, and at the same time, lack of qualified personnel.

The generation of modern professionals thus has not brought about an increase in organising and innovating capacity, that is, in an investment in human capital. Rather it has resulted in an accommodation to the dominant tendencies (through, for example, the placing of the innovators in non-productive activities), and in the brain drain.

The absence of coherent policies on the national level, or the lack of correspondence between the objectives of the educational system and the objectives on the macrosocial level, or the combination of these, has brought as a consequence the transformation of the universities into agencies of brain exportation. Another result is the transformation of investment in higher education into one more expense of subsidizing the living standards of the metropolis.

In other Chapters of this thesis, we examine the patterns of evolution of the educational system in Latin America and we conclude that there did not exist a correspondence between these patterns, and those followed by the educational system in the developed countries. Consequently, the "superproduction" of graduates on the higher level at the cost of the primary and secondary levels, together with the characteristics of the economic and social structures, make a great percentage of graduates tend to concentrate in the tertiary sector of the economy, particularly in the large cities. The tertiary sector continues being, for various reasons, more "open" to the so-called traditional careers (law, arts,) than to modern careers. The occupational opportunities for physicists, geologists, engineers, chemists, meteorogists - are almost all tied exclusively to teaching institutions or to private or state bureaucratic organisms.

University enrollment, meanwhile, continues growing faster than primary enrollment, and the percentage of the educational budget corresponding to higher education consequently grows even more. However, this growth is justified more as a "political investment" that operates to satisfy the demands of the middle classes and urban sectors than as an "economic investment" in human capital. On this level, the investment in education is either not profitable from the economic point of view, or it is a loss, in the part corresponding to the "exportation of brains".

Meanwhile, the investment in education, understood as a political-economic investment that should operate on the lowest levels of the educational system is careless, perpetuating the mechanisms of social discrimination and affecting production, to the degree in which the workers still continue with educational levels very inferior to what should be expected, considering that primary education is by law obligatory and free.

The "brain drain" thus is not a phenomenon isolated from the interaction nets that tie the developed countries and the undeveloped countries, but rather a somewhat more sophisticated way of direct transference of capital, one more way whereby the dependent countries subsidize the metropolis. The mechanism by which these movements occur is not simple, but appears to be regulated by conditioners of local and international supply and demand, and by the immigration policy of the "receiving" countries.

But the dominant structure is a constant: the more dependent countries are those that in greater degree contribute either to the more developed countries or to the intermediate countries.

FOOTNOTES

1. See, for example, in Blaug, M. (ed.), Economia de la Educacion, Ed. Tecnos, Madrid, 1972; Anderson, C. & Bowman, M. (eds.); Education and Economic Development, Aldine, 1965; Hanson, J. & Braembeck, C. (eds.), Education and the Development of Nations, Holt, Rinehart & Winston, N.Y., 1962, and such publications as Journal of Political Economy (Oct., 1962, Special Supplement).

2. Schultz, T.W.; "Investment in Human Capital", in Blaug, H., op. cit. page 17.

3. Johnson, H.G., "Towards a focus on economic development from a generalized concept of capital accumulation", in Blaug, M., op. cit., page 37.

4. However, such notions as "labour force" and "human resources" still keep an existential and social content that has implications of instrumentality; either making men instruments of other men or making men instruments of machines and calculations. In a social order and in an educational system that tries to form a man that has an increasingly greater and fuller dominion over social and material conditions, the concepts mentioned above deserve to be replaced by one more adequate to the relation, such as "human work". The educated man, the worker of contemporary civilisation, is beginning to break previously unsurmountable barriers between manual labour and intellectual labour, as the working world intermixes with the world of science and technology. This seems especially evident in the People's Republic of China.

5. Cardoso, F.H., Cuestiones de Sociologia de Desarrolle en America Latina, Ed. Universitaria, Santiago, Chile, 1968.

6. In reality here a series of problems are combined that have to do with attractive salaries for highly qualified personnel, changes of policies and little guarantee of stability of positions.

7. Scientific research has as one of its objectives the knowledge of the world (i.e., the search for laws of nature and of society and the formulation of these laws in monological enunciates). Technological research on the other hand, looks for the transformation of the world through the application of pragmatic enunciates in monopragmatic enunciates. Both types of research are dependent on each other. When an understanding of the character of the interdependence is reached, it is possible to separate what is sometimes confused: pure research (scientific investigation) and applied research (technological investigation). We consider the clarification to be valid since arguments are frequently heard that affirm or condemn one or the other type of

research in the scientific practice of one or another society, in any case managing to present both activities as antithetical.

PART III

PSYCHOLOGICAL ASPECTS

CHAPTER XII

PSYCHOSOCIOLOGICAL ASPECTS OF SCHOOL ACHIEVEMENT

The focus of the studies undertaken about differential school achievement and the adaptation of the child to the school, has traditionally been placed on factors having to do with the material aspects of the family of the child, leading to diagnostics and conclusions that, in one way or another, pushed both governmental and private agencies into searching for the correction of inequalities through nutrition programmes, distribution of clothing, books, and school supplies, directly to the children.

Without denying the utility of such programmes, the problem of the inequality of opportunities, of the "adjustment" to the system, of differential achievement, of absenteeism, drop out,...stems from complex and subtle causes, in which the educability of the child, as well as the structure of the educational system itself play a role that neither the traditional programmes nor the organization of the school contemplates. The type of social structure, the power system, the dominant system of production, the family environment in which the child develops; the efficiency of the educational system (the quality of the teaching methods, of the teachers, of the physical environment and of the organization and objectives of the school); the type of relationships that the child maintains with his teachers and parents; the values, interests and motivations of the child and of his parents - all are important factors in the educability of the child. All these aspects are intimately related in such a way that some become conditioners of others.

Although what interests us in this work, on the whole, is the more or less precise specification of these relationships, in this section we are principally interested in those aspects of the psychology of learning which seem especially relevant.

A. SCHOOL ACHIEVEMENT AND CULTURAL DEPRIVATION

The foci which concentrate exclusively on the material aspects and the type of early experience of the child point more than anything to what the child has learned, leaving aside the aspects referring to what these same children can learn.

We are interested in pointing out the aspects related to the environment and its effect on the development of the psychological potential of the child. We believe that the problem of inequality of opportunities is defined not only in terms of educational offer and of material aspects, but primarily in terms of the structure of the relationships in the family nucleus from the psychological point of view; in terms of the structure of the occupational market; in terms of educational aspirations and expectations, career selection, "vocation"; in terms of the system of social stratification with respect to the concrete possibility of ascending in the system; in terms of the power system and of the perceived legitimacy of this system, and the possibility of implementation of educational reforms.

From the point of view of the development of the capacities and potentialities of the child, we believe that the problem lies in this fact: that children coming from the less favoured strata of the population (who in turn have a greater probability of being culturally deprived), have little probability of success in the educational system, because this cultural deprivation has had a serious impact on the child's intellectual, perceptual and cognitive development. Furthermore, given the characteristics of the school, the bases of the systems on which interactions between teacher-student, student-student are established, and the expectations in terms of behaviour, motivations and chievement, belong to a system foreign to the pattern of relationships of the child, placing him almost automatically in an "inferior" category, thus affecting his self-image.

Without denying that the forms of socialization are closely tied to the material and cultural possibilities of persons, we are affirming that the nature of this process is not located on the level of the desires and motivations of people to change a style of life. Rather it is located principally on a type of social structure which causes these motivations, desires and interests to be detrimental to some and favourable to others. In explicative terms, what we are saying is that one must not take as an explanation the fact that children achieve differentially because their motivation is less. Instead, one must explain precisely that their motivations are less not becuase of any ontological character of the lower classes, but because of their existential character, and because of the ways in which the functioning of the global society is structured.

The attempts of favour equality of opportunity for everyone to enter the educational system and to advance in this as much as one can (assuming that one will advance in a system which is regulated by the "meritocracy"), will bring only palliatives and not solutions. It is false therefore that the educational system is going to change in the long run the class structure and the system of class relationships.

This is false for several reasons. Among them, is the fact that what the school system is achieving, rather than changing and modifying the class structure, is the reinforcing of the privilege of some, and the limiting of others.

The fact that the school has become one of the principal agencies of social and occupational mobility does not make it a mechanism of democraticization. If there is mobility, it is always partial and conditioned. It is not static, but is dynamism responds to factors removed from the aims of a democratic and pluralistic system.(1)

The greater part of the statistics that analyse the phenomenon of differential school achievement affirm the close relationship between class extraction and school achievement, with regards to learning as well as to possibilities of ascent within the system.

In our investigation in Chile(2), using objective tests and teachers marks in Mathematics and Spanish for a respresentative same of 295 students(3), we arrived at the following findings.

As is seen here, the distribution of the Spanish test tends to confirm the hypothesis about differential achievement in a linear manner, while in the case of the Mathematics test, the hypothesis is correct for

TABLE 94: ACHIEVEMENT IN THE SPANISH TEST, DISCRIMINATING BY SOCIO-ECONOMIC STATUS OF THE FAMILY. (IN PERCENTAGES)

Achievement in Spanish	Socio-Economic Status Low	 Lower Middle	 Middle	 Upper Middle	 Upper
Low	52.8	43.9	35.2	25.0	10.3
Middle	41.5	45.6	38.9	38.5	36.2
High	5.7	10.5	25.9	36.5	53.5
	100.0	100.0	100.0	100.0	100.0
N....	(52)	(57)	(54)	(52)	(58)

Gamma - 0.39

Source: Padua, J.: La Situacion del Nino en la Escuela, ELAS-UNICEF JNAEB, Santiago de Chile, 1969.

TABLE 95: ACHIEVEMENT IN THE MATHEMATICS TEST, DISCRIMINATING BY SOCIO-ECONOMIC STATUS OF THE FAMILY. (IN PERCENTAGES)

Achievement in Mathematics	Socio-Economic Status Low	 Lower Middle	 Middle	 Upper Middle	 Upper
Low	33.3	36.8	40.0	32.1	17.2
Middle	42.6	40.4	38.2	43.4	24.5
High	24.1	22.8	21.8	24.5	53.5
	100.0	100.0	100.0	100.0	100.0
N....	(54)	(51)	(55)	(53)	(58)

Gamma = 0.19

Source: Padua, J.: op.cit.

the only Upper status.

The interpretation that we suggest here would be the following: in addition to the cultural factors and to those of the potentialities of the child, it is necessary to reinforce the argument introducing an additional variable: teaching methods and their impact on the child.

We will begin by recognising that the learning of Mathematics, if not more abstract than Spanish, at least is not as familiar for the child. The child already has some training prior to school in the case of Spanish, so that what is dealt with not would be the oral and written "introjection" of the language. The learning would then be not only less difficult, but also it would be more closely related to the early environment. One then finds that the child coming from the higher strata not only makes a more sophisticated use of the language, but also knows concretely more words.(4) Growth, like any ongoing function, in other words, requires adequate stimulus in the environment, and the family environment and the school environment in this respect are better for the child coming from the more favoured strata. We are dealing then with the fact that the methods have a greater impact on children from the upper class, simply because the schools to which they go are better, with more time, more material, and better teachers.

An interesting phenomena, and one that tends to affirm our earlier observations, is that which is produced when the intellectual capacity of the children is introduced as a control variable.(6)

TABLE 96: TYPE OF SCHOOL AND CLASS COMPOSITION OF THESE (IN PERCENTAGES).

Socio-Economic Strata of Child's Family	Type of School(5)		
	Traditional	Private	State
Low	--	31	26
Lower-Middle	--	31	23
Middle	--	15	25
Middle-Upper	7	18	23
Upper	93	5	3
	100 (58)	100 (39)	100 (198)

Source: Padua, J.: op. cit.

TABLE 97: FORMATION OF TEACHERS, ACCORDING TO TYPE OF SCHOOL, (IN PERCENTAGES).

Formation	Ordinary Schools	Traditional Schools
Gov't. Normal School	74	10
Regional University Centre	1	-
Catholic University Schools	11	5
Others (mostly abroad or with univ. degree)	10	70
No answer	3	15
	100 (90)	100 (20)

Source: Padua, J.: op. cit.

TABLE 98: ACHIEVEMENT IN MATHEMATICS TEST, BY SOCIO-ECONOMIC STATUS, HIGH INTELLECTUAL CAPACITY (75 PERCENTILE AND GREATER) (IN PERCENTAGES)

NON-VERBAL TEST (RAVEN)

Achievement in Mathematics	Socio-Economic Strata: Low and Lower-Middle	Middle and Upper-Middle	Upper
Low	42	22	17
Medium	25	39	29
High	33	39	54
	100 (12)	100 (23)	100 (42)

Source: Padua, J.: op. cit.

VERBAL TEST (CONCHALI)

Achievement in Mathematics	Socio-Economic Strata: Low and Lower-Middle	Middle and Upper-Middle	Upper
Low	20	20	16
Medium	53	46	26
High	27	34	58
	100 (15)	100 (35)	100 (50)

Source: Padua, J.: op. cit.

TABLE 99: ACHIEVEMENT IN THE SPANISH TEST, BY SOCIO-ECONOMIC STATUS, HIGH INTELLECTUAL CAPACITY (75th PERCENTILE OR MORE), (IN PERCENTAGES).

NON-VERBAL TEST (RAVEN)

	Socio-Economic Status		
Achievement in Spanish	Low and Lower-Middle	Middle and Upper-Middle	Upper
Low	50	23	7
Middle	50	23	36
Upper	-	54	57
	100 (12)	200 (30)	100 (42)

Source: Padua, J.: op. cit.

VERBAL TEST (CONCHALI)

	Socio-Economic Strata		
Achievement in Spanish	Low and Lower-Middle	Middle and Upper-Middle	Upper
Low	33	6	8
Middle	40	35	35
High	27	59	57
	100 (15)	100 (34)	100 (15)

Source: Padua, J.: op. cit.

In both tests (Spanish and Mathematics) and for both psychological tests (Raven and Conchali), even when dealing with children whose intellectual coefficient is high (75th percentile or higher), the differences are basically maintained, although not now, in such a clear and linear manner as when we discriminated only by socio-economic status.

In the Mathematics test, and for both psychological tests, the differences are established in a more dramatic form for the upper strata, although there continue to be significant differences between the Lower and lower-middle strata on the one hand, and the middle and upper-middle on the other.

In this respect, one must note that the relationships between socio-economic strata and achievement in the psychological tests are positive (the higher the strata, the greater the intellectual capacity as measured by our test).

B. DIFFERENTIAL ACADEMIC ACHIEVEMENT: A PSYCHOLOGICAL INTERPRETATION.

When we talk about differential academic achievement and about the ways in which it is possible to reform the educational apparatus with the aim of resolving in partial or total form the problems associated with achievement, a series of assumptions about the physical, biological and psychological development of the child enter into consideration. These assumptions should be based on the contributions of psychology, especially on those branches which have a direct relationship with the educational task (psychology of learning, and evolutionary psychology).

TABLE 100: INTELLECTUAL CAPACITY OF THE CHILDREN, BY SOCIO-ECONOMIC STATUS. RAVEN TEST. (IN PERCENTAGES).

Intellectual Capacity	Socio-Economic Strata				
	Low	Low-Middle	Middle	Upper-Middle	Upper
Low	48.3	26.3	24.1	11.3	1.7
Medium	43.1	61.4	55.5	51.0	25.0
High	8.6	12.3	20.4	37.7	72.9
	100 (58)	100 (57)	100 (54)	100 (53)	100 (59)

Gamma = 0.60

Source: Padua, J.: op. cit.

TABLE 101: INTELLECTUAL CAPACITY OF THE CHILDREN, BY SOCIO-ECONOMIC STATUS. CONCHALI TEST. (IN PERCENTAGES).

Intellectual Capacity	Socio-Economic Strata				
	Low	Low-Middle	Middle	Upper-Middle	Upper
Low	68.0	36.8	29.6	10.9	3.3
Medium	28.8	47.4	51.9	41.8	11.7
High	10.2	15.8	18.5	47.3	85.0
	100 (59)	100 (57)	100 (54)	100 (55)	100 (60)

Gamma = 0.66

Source: Padua, J.: op. cit.

As we will analyse, the contributions that psychology can make are among these to take into consideration. But in any case, the roots of the problem of differential achievement and of the "educational problem" in general, respond to more complex causes in which social, political and educational "variables" intervene. Without the consideration of these, all purely psychological analyses can contribute only a little.

Among the psychological assumptions which pedagogy has followed for their application to the educative task, a series of conceptions about the nature of the child and about his development are hidden. During the last 20 years these have suffered a radical transformation and reformulation, which have not always been taken into consideration for their concrete application to the environment of education.

We will point out some of these, especially those which are related to the functioning of the brain, intellectual capacity, maturation, motivation and the importance of emotional factors.

1. The Forms of Brain Functioning

Until very recently, the idea was held that the functions of the brain were of a fixed and static nature, in which the task of learning, for example, started off from the basis of stimulus-response (S-R)ties. Thus, complex behaviours were not other than S-R chains. The way in which the brain would function was conceived as like that of a telephone switchboard. However, more recent investigations indicate that the physiology of the brain operates more like a computer than a telephone switchboard.

Descartes was one of the first to think of the reflex mechanism of the brain in a mechanistic way.(7) Situating the center of decisions in a small gland located in the back part of the brain, and in communication with its periphery through a series of nerve tubes (within which the impluses circulate, called "animal spirits") - Descartes established the conceptual bases of the reflex mechanism. Since..."the animal spirits ...starting from the chambers of cavities of the brain, arrive through these tubes to the muscles...in the same ways that water from the fountains of the King's gardens is capable by its own force of making function the gears and springs of certain machines put there."(8)

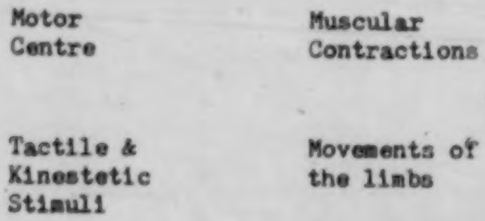
From there, and from the thinking of Leibniz, Locke, Holbach and Berkeley, the scientists of the nineteenth century would find the theoretical and philosophical bases for their work in exploring the physiology of the brain. From these investigations and speculations come the conceptualization of what Galindez criticises as the Mechanistic principle:

> ...given a known stimulus that is transmitted by a known nerve, a given reaction, and no other, is produced. Going ahead with this assumption: given the existent and the nerve tract, the location of the lesion in the nervous system can be localized.
>
> Under these principles, neurology has constructed an enormous edifice of retentive organs, conduction tracts, projection and association tracts and elaborative centers similar to a complicated telephone network, which would have its switchboard in the brain.(9)

From the Second World War, a different form of conceptualizing appeared, since the mechanistic interpretation showed itself to be inconsistent with a series of investigations. Thus, starting off with new contributions from the Gestalt school and from researchers connected with cybernetics, the reflex is conceived as a more complex act in which the response now is not static, but rather structural and dynamic. The central idea, and we believe the originality of the contribution, consist of the introduction of a representative or symbolic process, which interrelates between the stimulus in intrinsic and extrinsic "portions", in which three types of requirements have a place: a) memories of information, b) operations of a logical type that deal with the information in the memories, and c) hierarchical arrangements of these operations in "memories and programmes".

The consequence of this type of organization would be: the application of the vital phenomena, instead of subduing causal relations, obeys connections of finality (quasi-teology).

Graphically, a reflex could be represented in the following way:(10)



The graph represents, through a circular connection, what is technically known as feed-back, which permits the organism to be informed of its action and to correct itself and maintain itself in a state of "dynamic" equilibrium (Romeostasis).

With this conceptualization of the functioning of the brain, the explanations of learning, for example, are quite different and more dynamic than those coming from seeing the brain as a telephone switchboard functioning, that is, through trial and error, so that conduct accompanied by success would become fixed as a conditioned reflex, Now the brain "passes from a primitive arbitrary disposition of its feedbacks to systematically correct feedbacks of the experiencing adult."(11)

Thus, early experience of a subject would be interpreted as "programming" the intrinsic portions of the brain, those that posterioraly will work in their forms of learning and solving programmes.

This change of focus has had its impact on the explaining of some research findings, not only in the area of the physiology of the brain, but also in relation to the processes of learning, of motivation, and of intellectual development.

ii. Intelligence and its Development

Until very recently it was understood that the intelligence of a subject was predetermined by the genetic constitution with which the child was born, in such a way that, for example, the position that the individual occupied in a test of intellectual capacity would be a constant for that individual through his lifetime.(12)

Sustained principally by the fathers of psychometry, this conceptualization has changed substantially. Sufficient empirical evidence proves that the effects of the environment on the subjects development makes his intellectual development vary substantially over time.

The consequences of this would seem to be that it is necessary for the individual "to acquire adaptive programs through his physical as well as social experience with the environment. Thus, a new psychological syndrome would be constituted, generally referred to as "cultural deprivation" or "cultural retardation", as distinguished from the syndrome caused by retardations due to genetic or biological factors.

A very important consequence of this is that there exists a recuperability for those cases in which there is a "low intellectual coefficient" due to cultural deprivation. We repeat that until very recently the intellectual coefficient was thought to be fixed.(13)

Psychological development is another of the concepts that has fundamentally changed in the last few years. Until recently it was believed, following the Darwinian theories, that development was predetermined, a thought based on the assumption of intrinsic growth.

Thus conceived, psychological development depends entirely on maturation and as a direct consequence of this, early learning is of little or no importance, since it depends on whether or not the conditions of maturation of the nervous apparatus have been realized. In other words, the quantitative effect of practice on learning is a direct function of the level of maturity present at the moment in which said practice occurs.

However, it has already been seen above and in the contributions of such researchers as Hebb(14), Cruzo(15), Riesen(16), Thompson and Heron(17), Piaget(18) and others - that it is now believed that the structures of the nervous system are affected in their development by their dynamic interactions with the environment, in such a way that environmental circumstances come to be more important for early development to the degree in which the central nervous system is more predominant. That is, practice has to do with maturation, especially with that of the central nervous system, which is going to affect its capacity to resolve abstract problems.

iii. The Importance of Emotional, Sensorial and Motor Factors, and of Experience in the Pre-Verbal Period.,

Psychology had traditionally given little importance to the experiences of the infant, especially during his pre-verbal stage. This is principally due to the fact that the conception of man and the theories about personality development gave little importance to this stage of evolution.

With Freud, the panorama changes radically, due to his insistance on the importance of this period for later development of the individual. It can be said of Freud that emotional factors occupy a preponderant place among the influences on future development, surpassing such aspects as intelligence, perception and cognition and reducing them to a secondary role.

With reference to this matter, there is much controversy, and the research findings in general are contradictory. On the one hand, there is a series of findings that tend to contradict the Freudian hypothesis, pointing out that the early experiences of the individual are more important for perceptual, cognitive and intellective functions than for temperamental and emotional functions.

With respect to the relative importance of motor and sensorial parts for the learning process, there is also controversy. Contrary to what is maintained by the behaviorists, some of the recent theories hold that the sensorial side is more important than the motors side. Hence, education during the first years of life is important not only in that the child does things, but also that he is exposed to a variety of things (Piaget). According to Hunt, "...what seems to be most important is the capacity to receive a feed-back or a reinforcement of self-initiated actions."(19)

iv. Summary

The new conceptualizations depict the problem of learning in a more dynamic way. They show that the environment has a decisive impact on the psychological development of the child. Thus, differential achievement is observed among children coming from different social strata, and interpreted not as an ontological problem of class, nor as purely a problem of inferiority of the genetic inheritance of one class or another. We are not trying to deny the genetic inheritance or the possibilities that there are limits for the growth of certain capacitie[illegible]re trying to affirm that the nature of the problem does not reside [illegible] potentialities of the persons as individuals, but precisely in th[illegible] that certain social groups are in a position of relative privilege with respect to environmental factors which will allow the development of their potential, if not in an optimal way, at least in a way more favourable than that of another group of persons.

On this level of explanation we pass from psychology to sociology. And here, the theoretical material, although not the empirical, is abundant and also contradictory.

Independently of the theory about the origin of social classes, or the controversy itself about the real existence of classes, it is evident that the structure of contemporary society, especially that of the national societies that we examine, makes for the establishment of different social groups. These by their conditions of existence, are affected as to their possibilities of establishing ties with the environment that favour the development of their potentialities.

The possibility of establishing through the educational system, conditions more favourable for providing the children with an alternative environment to the home which would allow the correction of cultural deprivation this is a subject of great controversy which touches not only technical problems, but also moral ones.

FOOTNOTES

1. Much of the mobility attributed to the subjects (through education) does not take into account the mobility produced by structural factors (structural mobility), which open possibilities of occupational ascent, not by virtue of the subjects but rather of the system. Furthermore, there is a saturation point after which this mechanism fails to function.

2. See Jorge Padua: La Situacion del Nino en la Escuela; FLACSO - UNICEF. 1969. Santiago, Chile. The Index for Socio-Economic Status was constructed according to a combination of Education, Occupation, and Income of the Head of the Family.

3. See Jorge Padua, et al. Rendiusiento Academico; FLACSO - JNAED: Sgo de Chile, 1968.

4. The practices themselves of socialization of the children from the more favoured strata include from an early age variable content in the form of written or oral words, activities such as recreation (books, play materials involving verbal activities, reading practice, by the parents at bed time, etc.) as well as early exposure to such media as television, movies, etc.- (See R. Faria: Commisacione de Masa y Rendiniseno Ejcolas; FLACSO-ELAS, Santiago, Chile, 1969).

5. Such an unequal distribution is due to the fact that the private schools are in the charge of the catholic church principally and function in rural areas or in the marginal populations of urban sectors, or in small towns. (See J. Padua: La Situacion del Nino en la Escuela, UNICEF - FLACSO, Sgo, Chile, 1969).

6. Measured through verbal tests (Conchali) and non verbal tests (Raven) The tests were standardized by the investigation. (See J. Padua: La Situacion del Nino en la Escuela; Unicef, JNAEB, ELAS. Santiago, Chile, 1969. Methodological appendix.

7. Descartes, R. "Oevres et Lettres"; Las Pasiones. Biblioteque de la Pleiade. Paris.

8. Galindez, J.: "El Papel del Cuesfso en la Percepcion", _Cuadernos de Humanistas_. Universidad de Tucuman, Tucuman, Argentina. Page 27.

9. Jorge Galindez, _ibid_., page 30.

10. Jorge Galindez, _ibid_., page 32. Galindez here paraphrases Ashby.

11. J. McVey Hunt: Environment, Development and Scholastic Achievement, in Social Class, Race and Psychological Development, Deutsch M. Katz I. and Jensen A. Hols, Rinhart & Winston, New York, 1968.

12. A manifest expression of this assumption is in the fact that the coefficient of confiability of the best is based precisely on the assumption that the performance of the subject is not going to change over time.

13. The Darwinian assumption to which we refer maintains that the development of the individual synthesizes and shows in summary form the development [illegible] the species.

14. Hebb, D.O., "The effects of early experience on problem solving at Maturity", American Psychologist, 1947, 2.

15. Cruze, W.: "Maturation and learning in chick", Journal of Comparative Psychology, 1935, 9.

16. Riesen, A. "Plasticity of Behaviour Psychological Aspects", in Biological and Biochemical Bases of Behvior, Harlow and Woolsey University of Wisconsin Press, 1958.

17. Thompson, W. and Heron, W., "The effects of restricting early experience on the problem solving capacity of dogn", Canadian Journal of Psychology, 1954.

18. Piaget, J., The Psychology of Intelligence, Routledge and Kegan, London, 1947.

19. J. McVey Hunt, op. cit.

CHAPTER XIII

EDUCATIONAL ASPIRATIONS AND EXPECTATIONS IN THE LIGHT OF THE SYSTEM OF SOCIAL STRATIFICATION

The analytical separation between education as functional and as symbolic seems to use to be losing relevance, to the degree in which the structure of society changes from the effects of industrialization. Although it may be true that in the non-industrialized societies, education can serve in an almost exclusive form as one more symbol of status, in industrial societies it no longer has this exclusively "symbolic" role. It acquires an instrumental character. Thus, to judge the popular or working classes as having low motivation for ascending in the educational system, or having a valuative perception of the system as purely instrumental for entiring the working world - is perjorative. In fact, what seems to occur is that the "values" in themselves are the consequence of a particular type of relations and tensions between social groups. Hence one may interpret low "educational aspirations" not as low motivation, but rather as a certain realism, since what in fact happens is that the less priviliged groups adjust their educational aspirations to their expectations for fulfilling them.

In this respect, our findings in Chile are quite significant. To a sample of 295 mothers and fathers, representing distinct socio-economic strata, we posed the following questions:

(aspirations) "Without considering the real situation of your family, nor the practical difficulties of sending your children to school, what educational level would you like your child to reach?

(expectations) "Taking into consideration the real situation of your family and the practical difficulties of sending your children to school, what educational level do you think your child will be able to reach?".

The alternatives offered were the following:

Incomplete Primary
Complete Primary
Vocational
Incomplete Secondary
Complete Secondary
Incomplete University
Complete University
Other
Don't Know/Don't Answer

The importance of prsenting these questions to the parents (they were also presented to the children) could be justified on at least three grounds.

a. They would be expressing the pressures that the parents would be willing to put on their children to stay in, or withdraw from, the formal system of education, and the relative interest with which they would view the educational tasks of their children. From a secondary point of view, the results would indicate the future demand for educational organizations. Thus, in terms of the concrete possibilities of the region, locality, or country, one could speak of high, regular, or low aspirations or of coherent-incoherent aspirations, and realistic-unrealistic aspirations.

b. The expectations expressed would allow us to detect the differential perception which people have of the permeability of each one of the different educational levels.

c. Finally, the distance between aspirations and expectations gives us an indicator of "differential realism".

One would expect that the educational aspirations would be of a more abstract character than the educational expectations, since we asked the subjects not to consider their real situation nor the practical difficulties in the first case, but to do so in the second case.

However, as will be seen later, people do not aspire in the abstract. In their evaluation of hypothetical situations, regarding both aspirations and expectations, there is a fundamental determinant for the level of both, and this determinant is the existential fact of belonging to a particular social stratum. Both educational aspirations and expectations are the results of a series of direct and indirect social pressures on the global level, which are mediated by the social-class position of the individuals.

There are direct pressures which make the social framework in which both educational aspirations and expectations will emerge. These include: (1) those exercised by the state, which through laws makes education compulsory up to a certain level, under punishment of fine or imprisonment in some cases; (2) pressures of the economic structure and of the working world, such as those that condition entrance to this world and condition one's occupational level to a certain educational level;

(3) pressures that result from the interaction of these two factors previously mentioned, and which make the educational level necessary for entering the labour force above or below that fixed by law as minimum, thereby conditioning the political significance of education.

To these are added the indirect pressures - not less strong - which in general depend on the direct pressures. They have to do principally with the levels of prestige associated with both the different educational levels and the specializations within each level. They also have to do with the emphasis placed by the state on private associations in elevating the educational system and in promoting it as highly desirable for the aims of the "national destiny". And they have to do with the system of social stratification and with the fact that the parents project in their children their own unfulfilled wished for ascent, or for their children to remain at least on the same level as the parents.

A. THE DATA FOR CHILE

1. The Level of Educational Aspirations.

Tables 102 and 103 present data referring to the educational aspirations of mothers and fathers of children presently attending primary schools. The first noteworthy thing in both tables is the confirmation of the relation between socio-economic status and level of aspirations. The correlation is positive and quite high (Gamma 0.67 for mothers and 0.77 for fathers).

TABLE 102: LEVEL OF EDUCATIONAL ASPIRATIONS OF MOTHERS FOR THEIR CHILDREN, DISCRIMINATED BY THE FAMILY'S SOCIO-ECONOMIC STATUS. (IN PERCENTAGES)

	SOCIO-ECONOMIC STATUS				
ASPIRATIONAL LEVEL	Lower	Lower Middle	Middle	Upper Middle	Upper
Incomplete Primary	-	-	-	-	-
Complete Primary	6.3	8.8	-	-	-
Technical, Vocational	40.6	28.1	27.3	15.8	-
Incomplete Secondary	12.5	3.5	3.6	-	-
Complete Secondary	21.8	24.6	25.5	14.0	4.8
Incomplete University	1.6	1.8	1.8	1.8	-
Complete University	15.6	29.7	38.2	63.1	95.2
Don't know	1.6	3.5	3.6	5.3	-
	100.0%	100.0%	100.0%	100.0%	100.0%
N...	(64)	(57)	(55)	(57)	(62)

Source: Padua, Jorge: La Situacion del Nino en la Escuela, FLACSO UNICEF-JNAEB, Santiago de Chile, 1969.

TABLE 103: LEVEL OF EDUCATIONAL ASPIRATIONS OF FATHERS FOR THEIR CHILDREN, DISCRIMINATED BY THE FAMILY' SOCIO-ECONOMIC STATUS. (IN PERCENTAGES)

	SOCIO-ECONOMIC STATUS				
ASPIRATIONAL LEVEL	Lower	Lower Middle	Middle	Upper Middle	Upper
Incomplete Primary	-	-	-	-	-
Complete Primary	5.2	1.9	4.4	-	-
Technical, Vocational	25.9	19.2	16.3	4.0	-
Incomplete Secondary	15.5	5.8	-	2.0	-
Complete Secondary	29.3	36.6	18.4	8.0	-
Incomplete University	-	-	2.0	6.0	1.7
Complete University	22.4	36.5	57.2	76.0	98.3
Don't know	1.7	-	2.0	4.0	-
	100.0	100.0	100.0	100.0	100.0
N...	(58)	(52)	(49)	(50)	(59)

Source: Padua, Jorge: ibid.

Right now, we are interested in pointing out the following:

1. The higher the socio-economic status, the greater is the educational aspirations for the children. This is nothing new; in the United States, the evidence shows that aspirations for higher education depend (on the part of the subject aspiring) not only on intellectual capacity, but also on certain ethnic and socio-economic characteristics. There exists a proposition of Kahl(1), which we were unfortunately not in condition to verify in our sample, but which deserves to be stated. Kahl found that children of the lower class that aspired to a high education were more likely to have parents that were unsatisfied with their own class situation. This could be the case with some of our parent subjects, who would clearly be projecting their own aspirations into their children.

2. As a general tendency, the fathers aspire in greater proportion than the mothers to higher educational levels for their children. This difference is significant for the upper-middle (p/0.10), middle (p/0.05) and lower (p/0.10) strata.

3. There were no cases of fathers or mothers aspiring to incomplete primary school of their children.

4. Incomplete Secondary School appears to be instrumental or desirable for an important proportion of fathers and mothers of the lower strata.

5. Technical and Vocational education is generally more aspired to by mothers than by fathers. Also, within the distribution of the mothers, in the lower, lower-middle, and middle strata there exists a

respectable number of frequencies, the mode of the distribution concentrating in the lower strata.

ii. The Level of Educational Expectations

The same tendency that was noted in the level of aspirations, appears again for both parents, that is, the higher the socio-economic status, the greater the expectations that the children will achieve higher levels of education.

The level of educational expectations manifested by the parents is a response to the distribution of the school matricula in its different levels. In the way in which the educational system operates in reality, the possibility of entering the middle and upper levels of the system seems to be a function more of class extraction than of the individual capacity of the subject.

And in reality, the situation is more complex and discriminating. To certain degree it can be said that in spite of the "low expectations" manifested by the parents from the middle and lower socio-economic levels, these can be considered "optimistic" in terms of the actual proportion of children coming from these strata that manage to complete primary school, and to go beyond it.

From the tables, the following should be pointed out:

a. There is a strong positive correlation between the level of educational expectations for the children, and the socio-economic

TABLE 104: LEVEL OF EDUCATIONAL EXPECTATIONS OF THE MOTHER FOR HER CHILDREN, BY SOCIO-ECONOMIC STATUS OF THE FAMILY. (IN PERCENTAGES).

EDUCATIONAL EXPECTATIONS	SOCIO-ECOMOIC STATUS Lower	Lower Middle	Middle	Upper Middle	Upper
Incomplete Primary	12.5	1.8	3.6	3.5	-
Complete Primary	43.8	19.8	16.4	3.5	-
Technical, Vocational	15.6	17.5	5.5	8.8	-
Incomplete Secondary	10.9	19.3	21.8	5.3	1.6
Complete Secondary	10.9	14.0	27.3	22.8	9.7
Incomplete University	3.1	-	1.8	7.0	-
Complete University	1.6	10.5	20.0	42.1	87.1
Don't know	1.6	7.0	3.0	7.0	1.6
	100.0 (64)	100.0 (57)	100.0 (55)	100.0 (57)	100.0 (62)

Gamma Coefficient = 0.67

Source: Padua, Jorge: ibid.

TABLE 105: LEVEL OF EDUCATIONAL EXPECATIONS OF THE FATHER FOR HIS CHILDREN, BY SOCIO-ECONOMIC STATUS OF THE FAMILY (IN PERCENTAGES).

EDUCATIONAL EXPECTATIONS	SOCIO-ECONOMIC STATUS Lower	Lower Middle	Middle	Upper Middle	Upper
Incomplete Primary	20.7	1.9	2.0	2.0	-
Complete Primary	32.7	25.0	8.2	-	-
Technical, Vocational	5.2	15.4	16.3	10.0	-
Incomplete Secondary	22.4	17.3	10.2	4.0	-
Complete Secondary	12.1	21.2	32.7	22.0	-
Incomplete University	-	3.8	-	-	1.7
Complete University	1.7	7.7	24.3	54.0	96.6
Don't know	5.2	7.7	6.1	8.0	1.7
	100.0 (58)	100.0 (52)	100.0 (49)	100.0 (50)	100.0 (59)

Gamma Coefficient = 0.70

Source: Padua, Jorge: ibid.

status of both parents; the higher the socio-economic status, the greater the level of educational expectations.

b. As a general tendency, there are no differences between the answers of mothers and of fathers.

c. In the lower socio-economic strata, there is a significant proportion of fathers as well as mothers, that think that their children will not even complete primary school, which in general coincides, as we have already mentioned, with objective reality.

d. Also noteworthy is the high proportion of fathers and of mothers of the upper socio-economic strata that think their children will achieve complete university education.

iii. Educational Aspirations and Expectations taken together.

Formal education, for reasons of personal prestige, has and will continue to have relevance as long as schooling continues to be an instrumental factor in the system of reward distribution that given forms of social organization impose. The numerous works that confirm the correlation between schooling and occupation and income(2) make it unnecessary for us to make further comments in this respect.

However, the school is not a system open to everyone on all levels, and even less a system of social equalization. Access to the formal educational system and the development of the abilities and motivations for success and ascension in the system are conditioned by the system of social stratification, and by such patterns as modernization of the production and cultural systems. In the chapter about "Psychological Aspects of School Achievement", we analyze in detail some effects of family environment on the development of those psychological potentialities of the child that contribute to his success in school.(3)

Sociological thinking about the role of the educational system in social stratification, development, and social change is quite controversial. One current of thought - which could be labelled "traditional" - maintains as a supposition that "education is the main dissolver to social mobility, that it opens up the class structure and keeps it fluid, permitting considerably more circulation through class positions than would otherwise be possible. Education, further, yields attitudes and skills relevant to economic development and such developments, in turn, allow opportunity for persons at lower ranks."(4)

Another point of view, which can be called "radical", contends that "education serves two primary functions in capitalist societies: to help establish and preserve class divisions within the labour force, and to develop the sets of personal characteristics functional to the work requirements of the separate class."(5)

In another chapter we will go more deeply into the controversy between these two positions or points of view. For now, we say only that the first level of explanation (social stratification) conditions the differential achievement of children in a probabilistic rather than deterministic form. The fact that a child comes from the lower strata does not determine a low school achievement, but rather means that he has a differential probability notably greater than a middle or upper-class child of failing in the system.

There exists a higher level of explanation that acts "above" the stratification system and modulates it. This includes the economic, political and social structures that define the modes of relation; the relative rigidity of the stratification system; the relative difficulties of incorporation, retention and ascension in the education system; and the value that schooling can represent for different groups or classes of individuals in the overall society.

In the light of these complex nets of causality on distinct levels, we question the conceptualization that (on the psychological level) explains the differential aspirations and, a posteriori, the differential achievement of children, in terms of the idea of class subculture and differential perception of the value of education as "functional" or as "symbolic". This perspective attributes school failure and dropping out as problems of lack of parental "will" to worry "seriously" about keeping their children in a system which in the long run will produce supposedly substantial benefits.

In this section, we will try to demonstrate that differential aspirations and expectations by social class express the adaptation of the parents to the realities of a sociocultural and economic environment.

The question referring to educational aspirations of parents for their children points to a hypothetical situation in which neither the real situation nor the existential situation of the family is considered. But although on the abstract plane the situation is hypothetical for any member of any social class, it is evident that on the concrete level, the situation can seem hypothetical for the members of the upper classes, but not for the members of the lower classes. The latter are precisely those classes suffering in an immediate way the difficulties to which the question alludes.

It seems to us more correct to affirm that if education is perceived differentially by different groups in the overall society, it is because there is a series of real differences in the overall society and the educational offers which condition the particular situation of the family, its class position, and the resources it has available. The "class subcultures" and the differential perception of the system as "instrumental" or as "symbolic" are ex post facto rationalizations rather than something inherent in one or another social class.

We have seen that in Latin America, access to the educational system, the probability of completing the primary cycle, and access to and completion of the middle and upper educational levels, are closely related to class extraction, residential zone and sex. We also have seen that although the educational system in the abstract offers from the preprimary level to postgraduate levels, in concrete terms, this offer in rural places appears reduced to three years of primary school; in small cities, to complete primary school. Furthermore, we note the additional fact that the possibility of entering into the middle and upper levels of the system for a lower-class subject (or one from a rural area) is very low. Therefore, it is possible that, when exposed to a scale with alternative responses that include the entire spectrum of the system, in spite of all alternatives being read by the interviewer, the subjects of the less favoured strata tend to "cut" the scale. They fix an upper limit so as to avoid the creation of a hiatus too far removed from real possibilities, which potentially could generate frustration and anxiety. Definitely, we believe that the subjects aspire to less because they know the limitations that society imposes on them.(6)

We have also seen that educational expectations were strongly correlated with socio-economic status. This is not strange, since they point to a precise "prediction" on the part of the parents about what actually happens.

What is important to point out, and what seems to support our previous speculations, is that when aspirations and expectations are interrelated, these appear correlated with socio-economic status: the greater the socio-economic status, the less the gap between educational aspirations and expectations for children.

The empirical distributions for the various strata are indicated in Table 106.

Taking the diagonal cases, we can find in general what proportion of parents in this strata expect their aspirations to be fulfilled, whatever the level.

TABLE 106: FATHERS RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR THEIR CHILDREN. LOWER SOCIO-ECONOMIC STRATA. (IN PERCENTAGES).

	ASPIRATIONS				
EXPECTATIONS	Complete Primary	Technical Vocat'nal	Incom. Sec'dary	Complete Sec'dary	University
Incom. Primary	67	13	45	28	-
Comp. Primary	33	54	22	38	17
Tech./Voc'nal	-	13	-	-	8
Incom. Sec'dary	-	7	22	25	50
Comp. Sec'dary	-	13	11	12	17
University	-	-	-	-	8
	100	100	100	100	100
	(3)	(15)	(9)	(16)	(12)

Source: Padua, Jorge: op. cit.

For the lower socio-economic strata, only 16 per cent of the fathers expect that their educational aspirations for their children will be fulfilled. It is noteworthy that the level of aspirations "Complete Primary" includes the greatest proportion of expectations (33 per cent).

The percentage of mothers in the lower economic strata that expect their educational aspirations for their children to be fulfilled is 30 per cent, whatever the level of aspirations.

The following graph shows both the fathers and mothers expectations for the fulfillment of educational aspirations. In general terms, the mothers expect their aspirations to be fulfilled in a greater proportion than do the fathers, whatever the educational level to which they aspire.

TABLE 107: MOTHERS RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR THEIR CHILDREN. LOWER SOCIO-ECONOMIC STRATA. (IN PERCENTAGES)

	ASPIRATIONS				
EXPECTATIONS	Complete Primary	Technical Vocat'nal	Incom. Sec'dary	Complete Sec'dary	University
Incom. Primary	50	12	-	14	9
Comp. Primary	50	52	63	37	18
Tech./Voc'nal	-	36	-	-	-
Incom. Sec'dary	-	-	37	21	9
Comp. Sec'dary	-	-	-	21	9
University	-	-	-	7	18
	100	100	100	100	100
M...	(4)	(25)	(8)	(14)	(11)

Source: Padua, Jorge: op. cit.

It is difficult to estimate here who might estimate most clearly what educational level the child would reach. Fathers seem to come closer than the mothers in evaluating the real situation, especially if we consider the actual proportion of children from the lower strata that actually achieve

GRAPH 2

Expectations for fulfillment of educational aspirations for children, discriminated by level of aspirations. Lower socio-economic strata.

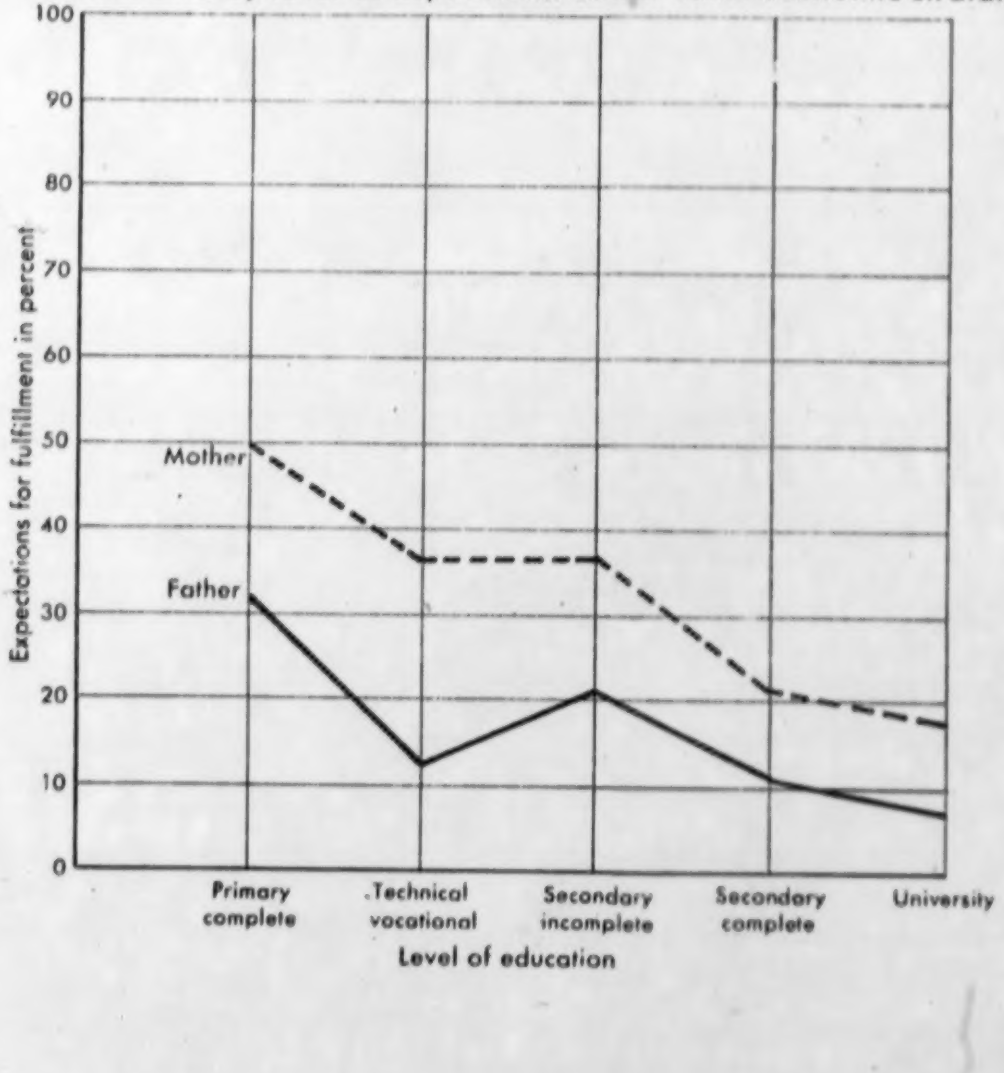


TABLE 108: FATHER'S RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR CHILDREN. LOWER-MIDDLE SOCIO-ECONOMIC STRATA. (IN PERCENTAGES).

	ASPIRATIONS				
EXPECTATIONS	Comp. Primary	Technical Vocat'nal	Incomplete Secondary	Complete Sec'dary	University
Incomp. Primary	100	-	-	-	-
Comp. Primary	-	29	40	31	21
Tech./Voc'nal	-	43	40	-	16
Incomp. Sec'dary	-	14	20	31	11
Comp. Sec'dary	-	14	-	38	21
University	-	-	-	-	31
	100	100	100	100	100
	(1)	(7)	(5)	(16)	(19)

Source: Padua, Jorge: ibid.

middle and higher education.

In this socio-economic strata, only 36 per cent of the fathers expect their educational aspirations for their children to be fulfilled.

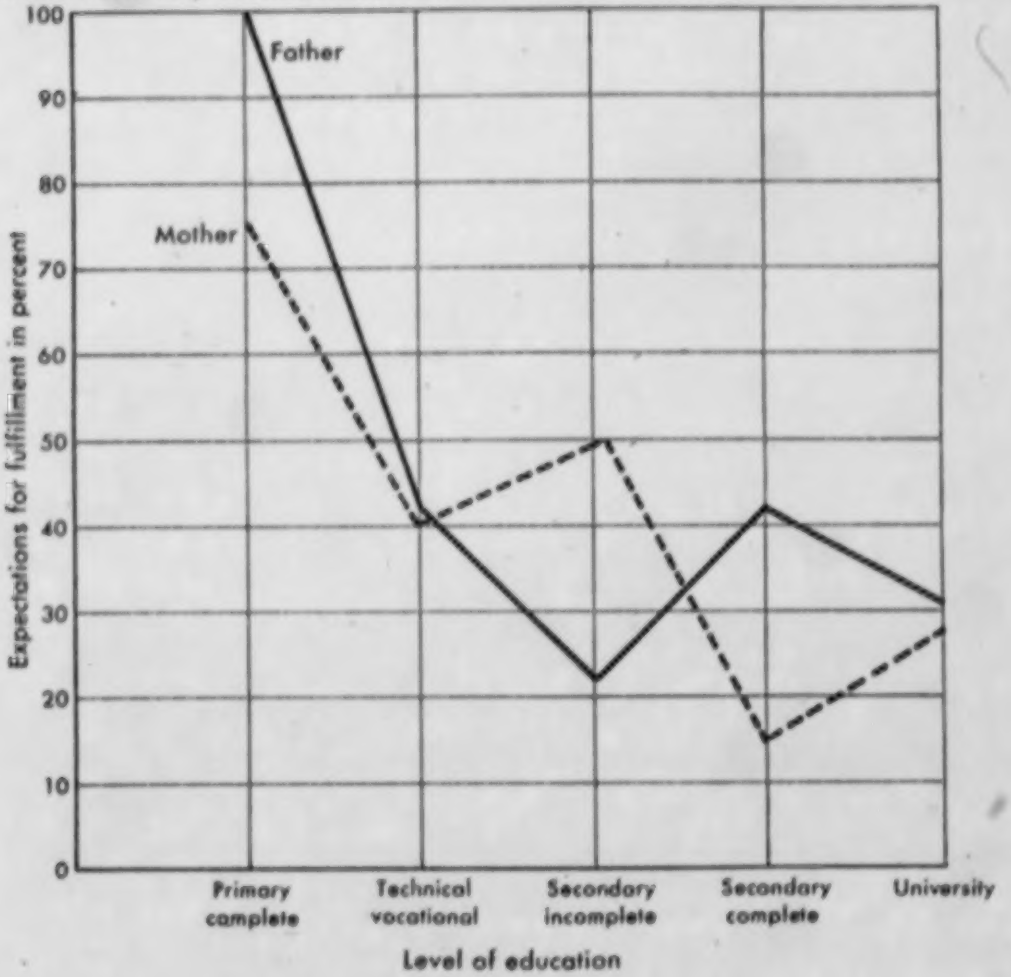
TABLE 109: MOTHERS RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR CHILDREN. LOWER-MIDDLE SOCIO-ECONOMIC STRATA. (IN PERCENTAGE)

	ASPIRATIONS				
EXPECTATIONS	Comp. Primary	Technical Voca'nal	Incompl. Sec'dary	Compl. Sec'dary	Univ-ersity
Incomp. Primary	25	-	-	-	-
Comp. Primary	75	25	50	31	24
Tech./Voc'nal	-	38	-	8	18
Incomp. Sec'dary	-	25	50	46	-
Comp. Sec'dary	-	6	-	15	29
University	-	6	-	-	29
	100	100	100	100	100
N...	(4)	(16)	(2)	(13)	(17)

Source: J. Padua, ibid.

In the lower-middle socio-economic strata, 33 per cent of the mothers expect their educational aspirations for their children to be

GRAPH 3



Expectations for fulfillment of educational aspirations for children, discriminated by level of aspirations. Lower-middle socio-economic strata.

fulfilled. Here it is observed that, as in the preceeding tables, as the aspirations become higher, the proportion of persons that thinking their aspirations will not be fulfilled increases. Fathers tend to be more optimistic than mothers. However, it is necessary to remember that the proportion of mother aspiring to technical or vocational studies for their children is signifiicantly higher than the proportion of fathers that do so (these latter tend to concentrate their aspirations on the levels of complete Secondary and University). Furthermore, we must remember that here we are talking of general tendencies, since due to the small number of cases in some of the categories, it is difficult to - establish some test of significance.

TABLE 110: FATHER'S RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR THEIR CHILDREN. MIDDLE SOCIO-ECONOMIC STRATA. (IN PERCENTAGES).

	ASPIRATIONS				
EXPECTATIONS	Compl. Primary	Technical Voc'nal	Incomp. Secondary	Complete Sec'dary	Univ-ersity
Incomp. Primary	50	-	-	-	-
Comp. Primary	50	-	-	-	11
Tech./Voc'nal	-	72	-	22	4
Incomp. Sec'dary	-	14	-	-	11
Comp. Sec'dary	-	14	-	78	30
University	-	-	-	-	44
	100 (2)	100 (7)	100 -	100 (9)	100 (27)

Source: Padua, Jorge: ibid.

TABLE 111: MOTHER'S RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR THEIR CHILDREN. MIDDLE SOCIO-ECONOMIC STRATA. (IN PERCENTAGES)

	ASPIRATIONS				
EXPECTATIONS	Compl. Primary	Tech. Vocat'nal	Incompl. Sec'dary	Compl. Sec'dary	University
Incomp.	-	7	-	7	-
Comp. Primary	-	37	-	14	9
Tech. Vocat'nal	-	21	-	-	-
Incomp. Sec'dary	-	14	100	43	9
Comp. Sec'dary	-	14	-	36	30
University	-	7	-	-	52
	-	100	100	100	100
M...	-	(14)	(2)	(14)	(23)

Source: Padua, Jorge: ibid.

From both tables we see that 58 per cent of the fathers think that the educational aspirations they have for their children will be fulfilled. In the case of the mothers from this middle socio-economic strate, the percentage that think that their educational aspirations for their children will be fulfilled is 42 per cent.

Of the fathers in the middle-upper strata, 66 per cent expect their educational aspirations for their children to be fulfilled, regardless of the level. Observe that the fathers that aspire to some level of education other than university for their children are relatively few (15 per cent).

TABLE 112: FATHERS' RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR THEIR CHILDREN. MIDDLE-UPPER SOCIO-ECONOMIC STRATA. (IN PERCENTAGES)

	ASPIRATIONS				
EXPECTATIONS	Compl. Primary	Technical Vocat'nal	Incompl. Sec'dary	Compl. Sec'dary	University
Incompl. Primary	-	-	-	-	-
Compl. Primary	-	-	-	25	-
Tech./Voc'nal	-	100	-	-	8
Incomp. Sec'dary	-	-	-	25	3
Compl. Sec'dary	-	-	100	50	21
University	-	-	-	-	68
	-	100	100	100	100
M...	-	(2)	(1)	(4)	(38)

Source: Padua, Jorge: ibid.

TABLE 113: MOTHERS' RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR THEIR CHILDREN. MIDDLE-UPPER SOCIO-ECONOMIC STRATA. (IN PERCENTAGES)

	ASPIRATIONS				
EXPECTATIONS	Compl. Primary	Technical Vocat'nal	Incompl. Sec'dary	Compl. Sec'dary	University
Incompl. Primary	-	12	-	12	-
Compl. Primary	-	12	-	-	3
Tech./Voc'nal	-	25	-	-	8
Incomp. Sec'dary	-	-	-	25	3
Comp. Sec'dary	-	33	-	63	14
University	-	12	-	-	73
	-	100	-	100	100
M...	-	(8)	-	(8)	(37)

Source: Padua, Jorge: ibid.

Sixty-four per cent of the mothers from this socio-economic strata expect their educational aspirations for their children to be fulfilled. This percentage should be a little higher if one takes into consideration that there is an important number of cases in the category of Technical-Vocational studies, in which it is expected that the children will go beyond the mothers' aspirations. Here it is possible that our ordering of the educational levels which refers more to the occupational prestige of technical-vocational studies as compared to secondary education, does not coincide with the expectations of the mothers. The latter might see in technical education on the one hand a final point in the educational career of their children, and on the other hand an education more tied to a career, which they percieve as the desirable occupational future for their children.

We must point out in these two distributions that there are no differences in the perception of fathers and of mothers with respect to the educational future of their children, expect that the fathers tend to aspire to more than the mothers.

TABLE 114: FATHERS' RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR THEIR CHILDREN. UPPER SOCIO-ECONOMIC STRATA. (IN PERCENTAGES).

	ASPIRATIONS				
EXPECTATIONS	Compl. Primary	Technical Vocat'nal	Incompl. Sec'dary	Compl. Sec'dary	University
Incomp. Primary	-	-	-	-	-
Comp. Primary	-	-	-	-	-
Tech./Voc'nal	-	-	-	-	-
Incomp. Sec'dary	-	-	-	-	-
Comp. Secondary	-	-	-	-	-
University	-	-	-	-	100
	-	-	-	-	100
N...					(58)

Source: Padua, Jorge: ibid.

In the case of the fathers from the upper socio-economic strata, 100 per cent expect their educational aspirations for their children to be fulfilled.

From the following table, we find that 93 per cent of the mothers from this upper socio-economic strata expect their educational aspirations for their children to be fulfilled.

TABLE 115: MOTHERS' RESPONSE: EXPECTATIONS FOR FULFILLMENT OF EDUCATIONA ASPIRATIONS FOR THEIR CHILDREN. UPPER SOCIO-ECONOMIC STRATA. (IN PERCENTAGES).

	ASPIRATIONS				
EXPECTATIONS	Comp. Primary	Technical Vocat'nal	Incomp. Sec'dary	Compl. Sec'dary	University
Incomp. Primary	-	-	-	-	-
Comp. Primary	-	-	-	-	-
Tech/Voc'nal	-	-	-	-	-
Incomp. Sec'dary	-	-	-	-	2
Comp. Secondary	-	-	-	100	7
University	-	-	-	-	91
	-	-	-	100	100
N...				(3)	(58)

Source: Padua, Jorge: ibid.

B. ANALYSIS OF EXPECTATIONS FOR FULFILLMENT OF EDUCATIONAL ASPIRATIONS FOR CHILDREN THROUGH THE DIFFERENT STRATA.

Although we have already made some isolated comments, it is of interest to point out the effect that the socio-economic strata of both parents as an independent variable.

One noteworthy finding is that the higher the socio-economic status of the father or mother, the greater the expectations that the educational aspirations held for their children will be fulfilled.

The following graph illustrates the expectations fulfillment of educational aspirations for both parents, and for all socio-economic strata.

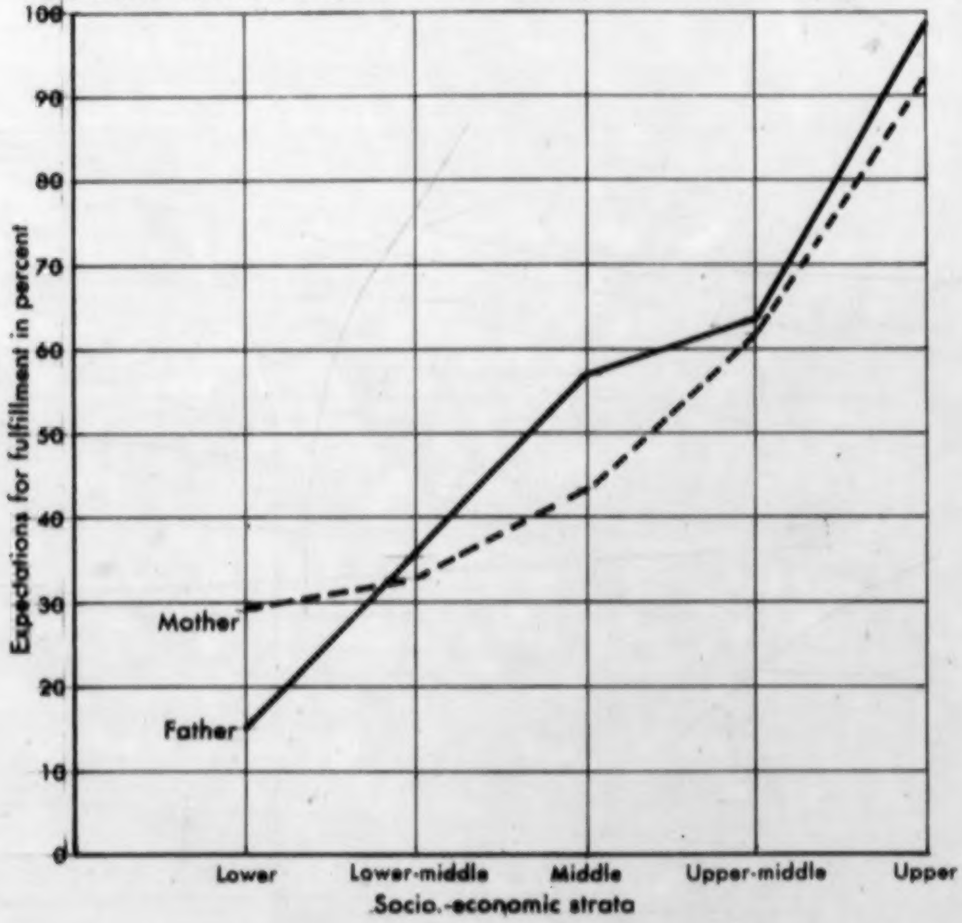
Let us remember two things: a) the percentages that appear in the graph were calculated from the coincidence between aspirations and expectations; b) the higher we go on the socio-economic scale, the higher the aspirations.

Since we are considering the fulfillment of aspirations, whatever they are, the graph expresses not only the "frustrations" facing the aspirations that are held for educating the children, but also the perception that each socio-economic strata has of the opportunities that the social system offers them for ascending in the educational system.

What we are interested in pointing out at this stage is not whether everyone who belongs to the higher strata will be incorporated into the higher educational level, but rather the fact that independently of whether or not they enter, the parents clearly almost unanimously aspire

GRAPH 4

Expectations for fulfillment of educational aspirations for children, discriminated by the socio-economic status of the family. Version of both parents.



to the highest educational level for their children, and also expect that their children will achieve this level. This phenomenon does not occur among parents of the less-favoured strata; their aspirational level systematically is placed in the lower levels of the educational system, with the aggravant that the expectations for fulfillment are very low.

We will give as a suggested explanation, the hypothesis of the "adjustment of aspirations" to a level that doesn't produce too large a gap, in such a way that for them, the system would "close" at a lower level than it would for the middle and upper strata.

Clearly, then, the perception of the educational system tends to perpetuate in some way the status quo. If the parents' expectations are fulfilled, at most there can be mobility between generations but not between the different strata. That is, one can ascend with reference to the parents, but not with reference to a total age-group of the population. The pretended operation of the educational systems and the so-called "meritocracy" as a criteria for ascending in the system appears now to be determined by the system of social stratification.

Neither are we dealing with a value-system susceptible to correction so that the system begins to function more effectively, or at least so that it retains more people from the lower strata, who tend to early desertion. What must be understood is that the structure (of the educational system and of the total society is built in such a way as to generate this particular kind of attitude and value in the lower strata of society. Behind all the rhetoric and the insistance on democratic education, free and open to all in Latin America, are the concrete societies and schools which are neither democratic nor free nor open.

This is not a predominantly Latin American phenomena. In the so-called open societies, the United States, for example, the situation operates in the same way (see Coleman and others). The education aspired to by the parents, and actually achieved by the subjects, is related to the income and education of the father.

In the light of what has been pointed out above, the efforts of government agencies to incorporate increasing numbers of the population into the formal educational system and to favour mechanisms by which the subjects that are incorporated not only stay in the system but progress maximumly within it, - those efforts must be accompanied not only by the creation of more classrooms, more and better teachers and teaching methods. There must also be a new type of school, more projected into the community, that would incorporate not only the child but the parents, as those responsible for the decisions that effect the form, content, and level of teaching as well as the direct management of the school (contacting teachers, determination of salaries, and so on).

The problem is not only alleviating the less-favoured families from the actual economic burden that sending children to school signifies, but also making a school with real significance for the children and the parents. The resistance of the parents in certain rural sectors to sending their children to school is not a resistence that appears to be "pure ignorance", or "barbaric prejudice" with regard to education. It is in itself a definitive judgement about the little value that education has for them.

There is sufficient empirical evidence for the following statements.

a. The system of stratification in the Latin American countries is patterned principally after social systems characteristic of the capitalistic type of economy. (We do not deny the existence of different types of capitalism, nor of relative difference regarding the degree of industrialization).

b. Ethnic and racial factors play an important role in the system of social stratification as well as in the educational aspects with which we are dealing.

c. The school is not the basis and functional mechanism in the distribution of status: rather, the process is averaged out or mediated by the class extraction of the student. The probability of entering, staying within, and ascending in the system is strongly conditioned by factors of social stratification.

d. There is little or no general upward social mobility through the educational system; rather, the mobility is restricted to certain social groups with pressuring capacity, basically the urban middle classes.

e. What is called class sub-culture, as a direct phenomenon of the stratification systems, is not only the result of a system of domination but also serves to perpetuate it. It serves to perpetuate differences not simply in the systems of attitudes, belief, and values, which in the long run are susceptible to change, but also differences in physical and psychological growth which are difficult to change.

f. There are more subtle processes through which the educational systems, if it does not metamorphose itself, at least accommodates itself to the status quo. A concrete example of this is that on the same educational level, the allocation of privileges is canalized not through levels, but according to specific schools. That is, there are differences between universities and technical universities on the higher educational level, and in the differential prestige of the different branches of a secondary school and its corresponding class reputation. On a more refined level, these are differences in the ways that the "prestige" of the specific school or university operates to form part of the elite.

* * * *

If the educational system is the enterprise through which complex societies train their members for exercising adult roles, and if we concentrate primarily on the world of labour, then for Latin American Societies, the educational system is influenced by the structure of production, firstly through the phenomena of illiteracy. As we conceive it at this point, illiteracy would not present itself as an epiphenomenon of the culture, but rather as a consequence of the forms with which man faces nature in the form of work. Education is for instructing, and the principal task of the educational system is the production of a labour force. If the working world in certain regions or zones of production does not demand an educated peasant, the peasants remain simply illiterate. This is principally applicable on the primary level; on the secondary and higher levels there operate mechanisms of a different nature.

Therefore, independently of the educational system existing on paper, that is, having legal status; independently of the obligatoriness of education for certain ages and from the pretended desirability of this for the whole population, people will or will not be educated, will or will not perceive the educational system, fundamentally, except through the working world.

There would then be two levels. On the social level the educational systems "exist". On the psychological level, the educational levels do not "exist". The social structure and the means of production would fix the limits on which the "existence" of the school would be determined on the psychological level.

Hence, the subject who does not perceive the "existence" of the educational system, who does not understand that he can utilise the system, possess it, adjust it to his necessities, is a subject who on the social level can be conceptualized as "alienated". However, on the psychological level, what is manifested is not alienation, but rather adaptive behaviour, to the degree in which the limits fixed by the social structure and the structure of production are systematic limits that determine the parameters in which risk, uncertainty, and tension (on the psychological level) are given. Thus the propensity to action would be conditioned on the psychological level by the reduction, in the greatest degree possible, of doubt, risk and tension. Definitely, people "aspire" to little education, because of the perceived fact that the possibility of ascent in the system is scarce or nil, and because of the expectations with respect to the instrumentality of education for social relationships and for work.

Hence comes the resistance of the Indians and the peasant, and of marginal people in general, to education. The fact that this is perceived as "instrumental" or as "symbolic" is not a resistance of a purely cultural character, nor even of class-cultures. It is a problem of the social structure and the means of production that fix the limits at which, on the individual level, doubt, risk, and tension arise. The limits are systematic limits, that are fixed not in relation to future goals (teleology of a biological type) but by constraints (extreme systematic limits, past and present).

FOOTNOTES

1. Kahl, Josephy, The American Class Structure; Rinehart & Co., New York, 1960.

2. See for example:

   - Brunner, E. & Wayland, S., "Occupation and Education" in Halsey, A., Floud, J., & Anderson, C.A., Education Economy and Society, The Free Press, New York, 1961.

   - Becker, H., "Schools and Systems of Stratification", in Halsey et al, op. cit.

   - Havighurst, R., "Education and Mobility in Four Societies", in Halsey, et al, op. cit.

   - Turner, R., "Modes of Social Ascent through Education", in Lipset, S., & Bendix, R. (eds.), Class, Status, and Power, 2nd edition, The Free Press, New York, 1966.

   - Lopreato, J. & Halserigg, L., Class, Conflict and Mobility, Chandler Publishing Co., San Fransisco, 1972.

3. See also, Padua, J., Quevedo, S., Faris, R., & Ochoa, J., School Achievement. An Analysis Based on Some Structural Variables, ELAS/JNAEB, Santiago, Chile, 1968 (in Spanish).

   Also: Padua, J., "The Situation of the School Child", UNICEF-ELAS-JNAEB, Santiago, 1969 (in Spanish)

   Also: Padua, J., "Programmes of School Feeding and Academic Achievement of Children", in Boletin de la Escuela Latinoamericana de Sociologia, Year 2, #1, Santiago, June, 1969. (In Spanish).

4. Tumin, M., & Feldman A., "Social Classes and Development in Puerto Rica", in Kahl, J. Industrialisation in Latin America, Fondo de Cultura Economico, Mexico, 1965. Similar positions are shared in general by the authors ascribed to the functional-structural school, such as Adam Curle, Educational Strategy for Developing Societies, Tavistock Publ., Social Science Paperback, London, 1970.

5. Gordon, M., Social Class in American Sociology, Duke University Press, 1958. To this school ascribe such authors as I. Illich, Deschooling Society, Harrow Books, Harper and Row, New York, 1970; Paul Goodman

Compulsory Mis-education and the Community of Scholars, Vantage Books, New York, 1964; and E. Rimer, School is Dead. Alternatives in Education, Anchor Books, New York, 1972.

6. Here it is possible to speak of a degree of alienation to the extent that the schemes of the dominant society are accepted as valid; but at the same time, the subjects would not be alienated if they accept the ideology of the system as open or as socially-equalising.

PART IV

CONCLUSIONS

CHAPTER XIV

CONCLUSIONS

The Latin American educational problem, expressed in the inoperancy of the formal educational system in fulfilling the objectives expressed through laws, decrees, and government programmes - is impossible to solve exclusively with technical means. It must be attacked with integrated solutions, with politics playing a preponderant role.

The low rates of schooling and of retention of students throughout all the levels of the system; the systematic discrimination against, and segregation of the less-favoured sectors; the "deviations" and "distortions" of enrollment in the secondary and higher levels; the low quality and quantity of graduates - all these depend on situations in which a technical solution is conditioned by political and economic circumstances that constitute the internal and external structures of domination.

Complete and open formal education is restricted to certain sectors of the economic and social milieu. Large categories of people exist, particularly in the more backward countries, for whom no effective programmes exist to integrate them into the educational system.

Thus, the growing polarization between one sector of the population that is marginalised from the system - or is provided with a minimum of schooling, this being conceived always as an economic instrument for the benefit of others - and one sector for which the educational system appears to be adequated and complete - this polarization contributes to the legitimacy of the severe criticism of the educational system that perceives it as an anti-democratic instrument, at the exclusive service of the dominant classes.

Illiteracy and low schooling rates are phenomena that predominantly characterise the prdominantly rural, the lower urban strata, and indigenous enclaves.

The relative efficiency of the educational system in its internal functioning is closely related to the level of development reached by the local community, by the composition of the labour force, by the structure of classes, and by the power of negotiation that the various interest groups have vis a vis the central state power. It is these structures that determine the type of education, as well as the degree of educability of people, through a system in which both the educational offer and the family system of values and modes of socialistion operate. There is evidently an interaction effect among these variables, where the infra-structural factors seem dominant.

Although it is evident that to some extent both educational planning and the effectiveness of the educational programmes in their concrete application, depend on technical criteria (such as the type of curriculum, the formation and capacity of teachers and administrators, and the application of modern instruments, pedagogy and techniques), it is also evident that the achievement of the goals of the educational plans and programmes, depends on the integration of educational policies with the general policies of the government. But not to any type of policies; rather to those policies that are generated from projects shared by the larger part of the population, and have revolutionary content.

Social, political and economic changes are not induced by technical means. If education in Latin America is in crisis, it is because the societies themselves (of which the educational systems are a part) are in crisis. The solutions that pretend to alter the roots of the present distortions of the educational system will be effective only when they include not just the school, but also the society serving as its geo-social milieu.

The solutions proposed so far have not managed to modify basically the injustices of the going system. They have operated principally as "patchwork policies". And it is not a problem that is resolved by technical means nor with the introduction of "modern" ideas. There is no technical solution to the educational problem, or more precisely, the technical solution is subordinated to political and economic solutions, and to the participation of the marginal masses in the future plans that visualize an effective social change.

This does not mean simply solving the problems of illiteracy. We have tried to show that the mechanisms of selection that regulate the advance or retardation of a student in the school system are closely connected to the system of social stratification. It is not that the difficulty of progressing in the school system lies in the passage from one level to another; the mechanisms of selection operate primarily within each of the levels or cycles of the school system.

Formal education, as it operates in Latin America, is a privilege achieved through a series of "sacrifices" that are always greater for the less-favoured groups. The educational system is not democratic, nor does it contribute to the democratisation of the Latin American societies.

The almost exclusive insistence on education as a "generator of trained man-power" that has been observed in recent times, and the consequent minimization of the political and social role of education as a generator of a citizen for democracy, has contributed to the even more dramatic marginalisation of the regions and sectors for which an education with economic meaning, although theoretically and abstractly relevant, actually has little chance of realisation due to the systems of land tenancy, methods of production, and a set of structural and geographical factors that make up a system of exploitation where the lack of education is functional for this exploitation.

Education as "capital", although originating in a cycle of production where social relations are taken as implicit, has its ideology based on and rationalised around the processes and dominant modes of production in urban regions. And it is always an education for exploitation. The preparation of man-power for the market is social capital, but educational expenses are transformed into investments only for those who own the means of production. Although on the individual level, the educated person acquires some type of "capital" this only serves him for passing from the "servant" category to the "proletariat" category, and this only in the urban sectors. The pre-Capitalism that predominates in many sectors of the agrarian economy in Latin America, superimposes a subsistence-level economy of small lots, and large "latifundos" where the peasant sells his labour without established hours, sometimes with the benefit of room and board (conserving his status of servant). On this level, in an environment where the technology of production continues to be primitive, rudimentary and traditional, the procedures of production do not require an educated person.

The country school - when it exists - adapts itself rapidly to the dominant conditions of the region. But its adaptation is not functional to change, because this would treaten the status quo. The adaptation is institutional marginalisation, and the rural school is in fact an urban school located in a rural environment. There obviously dees not exist a clear concept of the school for the community; rather the school has goals identical to the abstract list generalised for any school. Going to school is, for the children, a rite to be carried out for not a very long period of time. Some official attempts to reduce compulsory schooling in the country to three years and the educational offer to one to two or three grades, are indicative of the automatism and retardation inthe conception of the functionality of the school for the rural environment.

As this type of school operates in reality, and in the best of cases, it is an institutional agent for the teaching of reading, writing and arithmetic, not on the elemental but on the minimal level. The rural school is poor materially and in content. There is apparently a contradiction, in that the first thing that the peasants and indigenes request from the authorities are schools for their children; then, when these schools exist, they take out their children in order for them to work around the farm.

But this contradiction is not the result of a confused spirit, with little planning for the future and with a low level of "deferred gratification" patterns in the peasants. There is a clear logic, given the political and economic circumstances. Education as an "investment for the future" in the case of the peasants, given the actual working conditions in these areas, is valid only for those that will be emigrating to the cities, since the prospect for change in rural communities remains, so far, totally removed from the action of these groups.

Children are more "useful" as help at home in a system of production where the child has an economic role from a very early age, guarding cows, sheep, goats, and burros, and carrying firewood, than as potential innovators.

Empirical reality shows us that in the rural sectors where modern agriculture exists, schooling on the primary level is not a basic problem. The problem is located on the higher levels of the system, or in the quality of the education. The presence of a capitalist system of production in a rural environment in the face of pre-capitalist systems, represents an important advance in terms of what Marx called "the civilising function of capital". In these circumstances, the proletarianization of the peasants does indeed represent a greater opening in decision-making spheres on the local level, or at least an increase in the levels of consciousness of the people. At the same time, an increase in the rationality of the methods of production means that schooling acquires a greater existential meaning for the people, and consequently the parents make their children stay in school at least for the period established as compulsory by law. When the altering of the systems of production causes mobilisation, education is perceived as one of the most important mechanisms for upward social mobility.

In addition to the political and economic factors, there exist such factors as the population density, accelerated demographic growth, scarcity of communication lines, distance between the school and the home, short supply of schools, and similar factors. These complicate the global situation and mean that the effective incorporation of children into the school represents a considerable challenge that so far has not been seriously faced by those who decide the national and local priorities. The statistics and the reality contradict systematically the pretensions of fulfillment and all the rhetoric about education and human rights.

The constant restructuring of educational programmes, and reform proposals that take into account only the internal aspects of the educational system, will continue to represent "patchwork policies" as long as the situation is not viewed from a global perspective.

Whether the school (rural or urban) should adapt itself to changes that have already occurred, or whether it should take an active part and therefore stimulate and direct the change - these are abstract and unrealistic discussions, so long as they do not place the school in a global or total social context. For the possibilities of implementing one or another types of strategies of change depend on the power structure. The first of the above alternatives may be more feasible to implement. The second one - favoured by modern pedagogical theory - depends for its implementation on the support of the power structure, if not locally at least on the higher echelons, state or national.

For the middle levels of the educational system whose enrollment in Latin America has grown rapidly in recent years, the phenomenon is basically uban. It adapts to the changes produced in urbanization, the labour force, the demands for greater schooling for access to positions with better income levels, and similar social mobilization induced by structural transformations.

In spite of the quantitative growth in enrollment, the operation of the system on the secondary level continues to manifest the problems endemic to the Latin American educational system: absorption, delay, repetition, and desertion. There are more students enrolled, yet the percentages graduating have not shown significant increase. Consequently the costs per graduate have increased.

Enrollment in secondary school is concentrated mainly in what is callled "common secondary school" or "baccalaureate". This occurs principally in those countries with the greater educational problems. The "baccalaureat" of general formation, whose almost only objective is that of preparing students for university entrance, continues taking up from one-half to 80 per cent of secondary-school enrollment.

Secondary education does not have a solely independent organization. On the one hand, it has to correct the teaching problems inherited from primary school. On the other hand, and to the extent that the majority of its graduates will enter university, the secondary school dedicates the greater part of its curriculum to what could be called "the elevation of the cultural level of the student body".

The division into specializations in the secondary cycle gives place to a clear distinction in recruiting, according to the class extraction of the students. To begin with, the voational schools lack social prestige; further, many of them have a terminal character. Even in the case of those secondary schools that prepare for entrance to higher education, they do so for entrance to the universities or technological institutes, in which the stigma of classes still persists.

The traditional baccalaureate continues to represent, in the majority of the countries, the mechanism of social mobility and formation of elites. In Mexico, for example, in recent years the technical schools on the secondary level have grown with considerable speed, due to a governement policy of incrementing the relations between the job and schooling, there is resistance on the part of the rural bourgeousie and even the peasants to the secondary-level technical schools, and an insistence on soliciting baccalaureate schools.

In spite of this type of pressure, the composition of secondary enrollment according to specialisations is being substantially modified by the determinating influences put on the labour market by the economic structures of Latin American societies. In the more industrialised and tertiarised countries of the region, secondary school is increasingly functional for the labour market, gradually breaking the traditionalist structures that postulate the middle level as "secondary" education, and as a purely "cultural" instrument for simple access to the higher levels of the system. The specialisations associated with the tertiary sector of the economy (Commercial, Normal) and those associated with the secondary sector (Technical and Vocational) are not dramatically different in prestige from the common baccalaureate studies. In fact, the regulations in these countries mean that students entering university are not discriminated according to the specialisation of their secondary studies.

This is not to say that the problems associated with the school, and discrimination, disappear. The technical, industrial, and semi-professional specializations continue in the majority of the countries to suffer the reflections of the traditional social prejudices associated with the manual professions. Consequently they recruit their students from the poorer sectors of thepopulation - those that have gone to the quantitively and qualitively poorer primary schools.

The class composition of the secondary-level technical schools is much more homogeneous than that of the other specialities in the system, and is composed of students from worker and peasant sectors that have not been able to enter the specialties with greater social prestige.

The "humanism" of common or baccalaureate secondary schools is the humanism of the canned and abstract culture of books, where technical and practical activities for the transformation of the world have no place. They insist that the "cultured" person is one who knows something about art and literature. In a world of artificial satellites, electronics, decomposition of the atom, and trips to the moon, the secondary school is only preoccupied with modifying the curriculum of the technical schools in order to give them a superficial touch of humanistic formation. In the traditional "humanist" schools, the technical sort of activities are maximally ignored.

From the social point of view, and when the occupational structure tends to reaffirm the traditional values, the secondary school is one more element perpetuating the distances between social classes. It operates simply as a channel of ascent for the middle classes trying to incorporate themselves into the power elites. For them, secondary school is a cycle that leads to the university.

In situations of structural change, and when there exists an expansion of the middle classes - that is, social mobility - the secondary school has a greater functional meaning for the occupational structures. As we have seen in earlier sections of this thesis, this does not necessarily lead to greater participation in the mechanisms of power.

With respect to higher education, the growth in enrollment and the multiplication of Latin American universities in recent years would seem to indicate a democratisation in access to the higher levels of the educational system. However, the enlargement of the educational offer to include these levels serves more as an "escape valve" for the pressures of the mobilized groups. The power structures are not substantially modified. The mechanisms by which the power system is perpetuated are the elevation of the educational "threshold", the quality of the education offered within the different specialties, the extension of these specialties, and the attendance of the elites at private or foreign universities. Access to higher education in Latin America, which in relative terms represents greater proportions of the university-age population than in Europe, would indicate simply that access to education is more open than access to power or to property.

Meanwhile, in the conception of what should be and what is the role of the university in the global society, the Latin American university presents both its own traits and traits inherited or borrowed from the European and North American universities.

From the Napoleonic conception, it inherits the dependence of the universities on the state, and its type of organization to suit the goals of producing professionals. But this dependence on the state is a financial dependence. University autonomy guarantees, from the legal point of view at least political independence with respect to the state.

From the German conception, the Latin American university inherits the idea of the search for truth, but contrary to this conception it is not rigid and formal in character. The massification of the Latin American universities and the rapid accumulation of positive knowledge, impedes the concentration onresearch originally given in the German conception, but the latter still functions as an ideal of knowledge.

From the North American conception, oriented to action and progress (pragmatic university), Latin America increasingly incorporates the pattern of departmental organization, although not the integration of the North American universities to the North American systems of production.

The particular nature of Latin American universities, a conception that is extending more and more to the operations of other universities in other regions, is its preoccupation with political reality, wherein the university acts as a critical political conscience of the state and

Social participation- which had increased as a consequence of the structural transformations and the social mobility - is replaced by the military groups, and the upper classes and their mechanisms of coercion. At this juncture, education must become restrictive of the autonomies, of the academic liberties, of ideological pluralism. These limitations extend to the control not only of the growth in enrollment in higher education (in the name of efficiency and rationalization) - but also the control of those sectors of knowledge judged to be "subversive" or "ideological". They are so judged, often in the name of maintaining "Western and Christian traditons".

Thus, in order to achieve the "aggrandizement of the nation" and the "fulfillment of the destiny of national greatness", in the name of rationalization and planning, the technocracy proposes a rigid and stratified, elitist and moralizing education, in the service of the status quo.

The enormous emigration of Argentinian, Uruguayan, Chilean, Bolivian and Brazilian professionals and technicians represents the political cost of the new stablisation. It is a precarious stabilization contradictory to the development plans. It is a model without a future, and standing against the main currents of contemporary world history.

The coercive conditioning of social participation to the service of the interests of the dominant classes and to the authoritarian style, cannot lead to a developed, and even less to a democratic, society.

SUMMARY

The function of education as an institution whose principal role goes further than simple learning, to include programmes, plans and objectives pointing to political, economic, social and cultural order - has been proposed in Latin America ever since the origins and the constitutions of the Nation-States in the early 19th century.

The idea of educational planning, by contrast, belongs to contemporary history, manifesting itself at the beginning of the 1950's in the more advanced countries of the region. However, even until today, educational planning in Latin America has been conceived in an eager imitation of educational models that have had some success in other capitalist regions and countries. Such models lack originality in Latin America.

For the 19th century, the fundamental problem in Latin America was politics and the consolidation of the nation. Influenced by French romanticism and English and North American enlightment and liberalism, the taks of modernization was presented as a task of the formation of citizens that would participate responsably in the national project. The political image of the educated man and of his capacity for the transformation of society, was the master key for progress on all levels. The emphasis was not placed on work or on the formation of resources, because work is part of the obligation of the responsable citizen.

For the modern generations, the principal emphasis is on the economic side. Educational planning is the principal aim or tool from

which the expenditure on education is transformed into an investment for economic development. The country educates in order to form trained man-power, for the creation of innovators in the area of production.

It is evident that the capacity for innovation, for the transformation of the working world, for the generation of scientific and technological knowledge - are important elements for the transformation of societies and consequently for the elevation of the standards of living of the population. It is also evident that the preparation of the type of man for the task of establishing the political and social arrangements significant for the populat majorities - this preparation gives a basis and foundation to the technical.

The promotion and coordination of the educational, scientific and technological activities of a society depend on a series of factors where in the professional formation is but one of the elements to take into account. Professional formation, the utilization of resources, the formation of coherent plans, indeed, the utilization of the technology that the sciences can offer for the achievement of the goals - these are not the elements that release the "chain reaction" that will favour in the short and long run the development of activities conducive to growth in the economic, justice in the social, and democracy in the political sphere.

The obstacles to change and progress are not located simply on the level of attitudes and motivations in the face of work; nor on the capacity of local brains to generate innovations. Rather, they are located on the more macrostructural levels that form the type of attitudes and the development of potential capacities.

In order to "dynamize" education, it is necessary first to "dynamize" the societies. And this will not happen simply by blindly imitating what seems to have had success in other world regions, nor by retrogressing back into Latin American history.

A. FUTURE AND SOCIETY

One of the restrictions most important to historicism is that formulated by Popper, according to which the anticipation of the future of history would be impossible by virtue of the following five propositions:

> 1. The course of human history is strongly influenced by the growth of human knowledge.
> 2. We can not predict by rational or scientific methods the future growth of our scientific knowledge.
> 3. We can not therefore predict the future course of human history.
> 4. This means that we can reject the possibility of a theoretical history; that is, of an historical and social science of the same nature as theoretical physics. There can not be a scientific theory of historical development that services as a base for historical prediction.
> 5. The fundemental aim of the historicist methods is therefore badly conceived, and historicism falls on its own base.(1)

Evidently the logic of Popper is valid if it is assumed that the premises on which this argument is constructed are valid. Although certainly the techniques, methods and theories of prediction of the future are quite primitive, we must recognise that Popper's argument invites a premature closing of discussions - a closing identical with that of the determinists (who believe that the future course of history is already determined) - against whom Popper builds his argument!)

The future of human happenings does not develop independently of social-historical processes, nor are these processes independent of man's action.

Evolution, progress, and development are determined neither by purely subjective nor purely objective factors. We are dealing with processes that operate not only on the objective level of concrete institutions and of social structures, but also on the subjective level of values, opinions, and attitudes. There is a dialectic of these relations between the objective and the subjective, a dialectic which connects the relationships between man and his creations.

From the pedagogical point of view (the central element of our analysis), despite the cynicism of those who think that changes are not possible, except within the order established by the actual elites. Authoritarians of both the left and the right negate man, the first subjugating him and the latter giving the category of man only to certain individuals according to their position on the social scale, we must affirm certain non-ideological notions that offer a vision of man with a social vocation and a pedagogy of liberation of man for a social mission.

The antipathy between the individual and the social is ideological and therefore false; both individuals and society are part of the same process. That is why civilization does not develop by itself, as Durkheim wished, nor does it develop as a creation of human individuals impelled by motives of transformation, as the psychologists wish.

Civilization is not a natural product that emanates from the nature of man, nor is it an entity foreign to man exercising an alienation role on him.

The two terms of the dialectic relation should be conceived in such a way that their contradiction is not negated - so that neither is one subordinated to the other. Man is formed in the measure of his civilization, and civilization is formed in the measure of man.

The velocity of change in the contemporary era - the giddy transformations caused by science and technology in the work sphere as well as in communications - make a total rethinking about education on all its levels necessary, in order not to risk setting back the entire society and eventually isolating it from the general movement of civilization.

"The future" - says Suchodolski (2) - "stops being a reality which is expected and changes into a reality which is concocted". This is because the course of civilization is not defined by a straight line whose "angle of inclination" is a function dependent purely on knowledge. So much so, that our future is defined not only by the dangers of rapid and total extermination (nuclear war) such as was feared at the peak of the cold war, but also by the danger of a slow yet total extermination (pollution, scarcity of resources, overpopulation, and so on). Science and technology, maximum expressions of actual knowledge, are in this respect a double-faced goddess that represents a potentiality of well-being and progress as well as an instrument for extermination and domination.

The future of man depends on the man of the future, and again citing Suchdolski,

> He who believes in the future, omitting human social activity, falls into fatalism, which justifies assuming the role of a mere spectator of reality, of the good and the bad that the future brings with it, and brings the individual to worrying in a selfish way and to take the maximum advantage of his adaptation to these conditions and circumstances, independently from himself.
>
> He who plans social activity without taking into consideration the tendencies of the objective world, falls into voluntarism, which - dissimulating the deceiving perspectives of human activity - leads to failures and disillusions, to the chaos which is usually provoked by projects which are in contradiction to real conditions and possibilities.(3)

The man of the present depends increasingly, then, on the man of the future. "Futurology" now is not the exclusive domain of fortune tellers - it has become a preoccupation of science.

And planning is part of these process of preoccupation. But in order to plan, it is necessary to have an idea of man, of his relations with nature, with other men, with civilization, and with technology. And these ideas should depend less and less on ideologies.

Thus part of the task is to first separate what is ideological in the reasoning, in order to come more and more close to knowledge. The fact that this separation is difficult should not detain the task.

FOOTNOTES

1. Popper, K.; La Miseria del Historicismo, Madrid, Tecnos Ed., 1973. (page 12.)
2. Suchocolski, B., Tratado de Pedagogia, Barcelone, Ed. Peninsula, 1973. (page 9)
3. ibid, page 50.

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